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DEPARTMENT OF THE NAVY
JUSTIFICATION OF ESTIMATES
FY 1990/1991 BIENNIAL BUDGET



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SUBMITTED TO CONGRESS JANUARY 1989

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PROCUREMENT

OTHER PROCUREMENT, NAVY

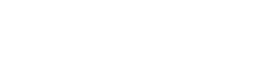
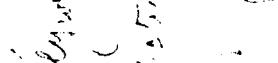
Department of the Navy
Other Procurement, Navy

Justification of Estimates for Fiscal Year 1990 and Fiscal Year 1991

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Other Procurement, Navy

For procurement, production, and modernization of support equipment and materials not otherwise provided for, Navy ordnance and ammunition (except ordnance for new aircraft, new ships, and ships authorized for conversion); the purchase of not to exceed two vehicles required for physical security of personnel, notwithstanding price limitations applicable to passenger carrying vehicles but not to exceed \$160,000 per vehicle; and the purchase of not to exceed [492] 671 passenger motor vehicles of which [434] 645 shall be for replacement only; expansion of public and private plants, including the land necessary therefor, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; [\$4,813,969,000] \$4,986,900,000, to remain available for obligation until September 30, [1991: provided. That funds appropriated for procurement of TSEC/KY-67 (Bancroft) radios shall be available only for procurement of SINGCARS radios] 1992, of which \$24,132,000 shall be available only for the Navy Reserve. Further, for the foregoing purposes, including the purchase of not to exceed two vehicles required for physical security of personnel, notwithstanding price limitations applicable to passenger vehicles but not to exceed \$160,000 per vehicle and the purchase of not to exceed 649 passenger motor vehicles of which 630 shall be for replacement only; \$5,723,900,000, of which \$44,025,000 shall be available only for the Navy Reserve, to become available for obligation on October 1, 1990 and to remain available for obligation until September 30, 1993. (10 U.S.C. 5013, 5063; Department of Defense Appropriations Act, 1989; additional authorizing legislation to be proposed.)

Program and Financing Line Item/Line of Dollars

Summary

Budget Plan (Amounts for FY2001)

FY2001

FY2002

FY2003

FY2004

FY2005

FY2006

FY2007

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FY2010

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FY2011

**Other Procurement, Navy
Program and Financing (in thousands of dollars) Summary**

		1988 actual	1989 est.	1990 est.	1991 est.
Identification code	17 1810-0-1051				
11 0001	Revaluation of obligations to civilians				
12 0001	Obligations incurred, net				
13 4001	Outstanding balance, start of year				
14 4001	Outstanding balance, end of year				
15 0001	Adjustments in current accounts				
16 0001	Adjustments in unexpired accounts				
17 0001	Outlays				
90 0001		4,700,233	4,700,500	4,721,100	4,735,000

Object Classification (in thousands of dollars) Summary

Identification code	1984-01-051	1984-01-052	1984-01-053	1984-01-054	1984-01-055
Direct obligations:					
Other services:					
125 002	64,833	22,168	15,519	20,000	6,000
126 001	139,641	49,060	50,867	61,000	6,000
126 002	74,808	72,380	6,574	6,000	6,000
126 003	1,037,350	1,000,301	1,131,154	1,227,000	1,227,000
126 004	3,540,793	3,524,337	3,601,711	4,007,000	4,007,000
Purchases from industrial funds					
115 001	4,056,905	74,728,146	4,084,341	5,497,397	
Contracts					
116 001	101	455	455	455	455
116 002	210	966	966	966	966
116 003	110	513	513	513	513
116 004	1	7	7	7	7
Other					
117 001	24,751	76,340	56,379	55,379	55,379
117 002	76,406	66,216	64,000	64,000	64,000
Supplies and materials					
118 001	711,001	704,101	4,003,314	4,014,365	4,050,341
Equipment					
119 001	199,001	199,001	199,001	199,001	199,001
Total Direct obligations					
Reimburseable obligations:					
Other services:					
225 002					
226 003					
226 004					
Purchases from industrial funds					
227 002					
227 003					
227 004					
Contracts					
228 001					
228 002					
228 003					
228 004					
Other					
229 001					
229 002					
229 003					
229 004					
Supplies and materials					
230 001					
230 002					
230 003					
230 004					
Equipment					
231 001					
231 002					
231 003					
231 004					
Total Reimburseable obligations					
Total obligations					

**Other Procurement, New
Program and Financing (in thousands of dollars) FISCAL YEAR 1986**

Identification code	10 1010-0-1-001	Budget Plan (Amounts for PROCUREMENT actions programmed)			Actual (Amounts for PROCUREMENT actions programmed)			
		1985 actual	1986 est.	1986 est.	1985 actual	1986 est.	1986 est.	
Program by activities:								
Direct program:								
00 0101	Ship support equipment	25,520	16,620	16,620	16,620	16,620	16,620	
00 0201	Communication and electronic equipment	1,620	1,620	1,620	1,620	1,620	1,620	
00 0301	Aviation support equipment	6,000	6,000	6,000	6,000	6,000	6,000	
00 0401	Finance support equipment	1,200	1,200	1,200	1,200	1,200	1,200	
00 0501	Civil engineering support equipment	3,410	3,410	3,410	3,410	3,410	3,410	
00 0601	Supply support equipment	6,272	6,272	6,272	6,272	6,272	6,272	
00 0701	Personnel and command support equipment	16,152	16,152	16,152	16,152	16,152	16,152	
00 0801	Science and repair parts	401,696	401,696	401,696	401,696	401,696	401,696	
00 9101	Total direct program	2,901	2,901	2,901	2,901	2,901	2,901	
D1 0101	Reimbursable program	410,587	410,587	410,587	410,587	410,587	410,587	
D1 0001	Total							
Financing:								
Utilizing collections from:								
11 0001	Federal funds(-)	6,333	6,333	6,333	6,333	6,333	6,333	
13 0001	Local funds(-)	2,810	2,810	2,810	2,810	2,810	2,810	
14 0001	Non-federal sources(-)	463	463	463	463	463	463	
17 0001	Recovery of prior year obligations	16,847	16,847	16,847	16,847	16,847	16,847	
18 0001	Unobligated balance available, start of year							
21 4002	For completion of prior year budget plans	-50,161	-50,161	-50,161	-50,161	-50,161	-50,161	
21 4003	Available to finance new budget plans	131,430	131,430	131,430	131,430	131,430	131,430	
21 4007	Reprogramming funds for prior year budget plans	86,087	86,087	86,087	86,087	86,087	86,087	
22 4001	Unobligated balance transferred to other accounts	55,723	55,723	55,723	55,723	55,723	55,723	
25 0001	Unobligated balance lapsing							
40 0017	Budget authority (apportioned to index) 1	-37,381	-37,381	-37,381	-37,381	-37,381	-37,381	
		32,261	32,261	32,261	32,261	32,261	32,261	

Other Procurement Navy: Estimates of Anticipated Fiscal Year 1989

Budget Plan Amounts for FY1989

Program and Funding Line: Estimates of Anticipated Fiscal Year 1989		Budget Plan Amounts for FY1989						
		Anticipated			Actual			
		1988 Actual	1989 Ant	1990 Ant	1991 Ant	1988 Actual	1989 Ant	1990 Ant
Identification Code: 17-1810-0-1-051								
Program by activities:								
Direct program:								
17-1810-1-051-0101	Ships support equipment	620,395				464,168	103,316	33,511
17-1810-1-051-0201	Communication equipment	1,397,434				306,906	306,307	42,191
17-1810-1-051-0301	Aviation support equipment	490,834				411,620	61,163	18,051
17-1810-1-051-0401	Ordnance support equipment	1,086,480				810,061	316,976	19,467
17-1810-1-051-0501	Civil engineering support equipment	109,175				20,906	21,025	7,510
17-1810-1-051-0601	Supply support equipment	103,500				55,500	20,701	17,716
17-1810-1-051-0701	Personnel and command support equipment	409,114				298,320	61,187	45,626
17-1810-1-051-0801	Spares and repair parts	527,618				466,988	16,881	8,566
17-1810-1-051-0901	Total direct program	4,736,091				3,461,715	900,216	617,066
Indirect program:								
17-1810-1-051-1001	Reimburseable program	85,000				65,000		
Total:								
			4,801,091			3,460,715	900,216	617,066
Transfers:								
Directing collections from:								
17-1810-1-051-11001	Federal funds:							
17-1810-1-051-11001-1	Trust funds	-17,500						
17-1810-1-051-11001-2	Non-debt deferrable	-45,000						
17-1810-1-051-11001-3	Non-debt nondeferrable	-2,500						
17-1810-1-051-12001	Unfunded balances, start of year:							
17-1810-1-051-13001	Unfunded balances, prior year							
17-1810-1-051-14001	Unfunded balances, prior year							
17-1810-1-051-15001	Unfunded balances, prior year							
17-1810-1-051-16001	Unfunded balances, prior year							
17-1810-1-051-17001	Unfunded balances, prior year							
17-1810-1-051-18001	Unfunded balances, prior year							
17-1810-1-051-19001	Unfunded balances, prior year							
17-1810-1-051-20001	Unfunded balances, prior year							
17-1810-1-051-21001	Unfunded balances, prior year							
17-1810-1-051-22001	Unfunded balances, prior year							
17-1810-1-051-23001	Unfunded balances, prior year							
17-1810-1-051-24001	Unfunded balances, prior year							
17-1810-1-051-25001	Unfunded balances, prior year							
17-1810-1-051-26001	Unfunded balances, prior year							
17-1810-1-051-27001	Unfunded balances, prior year							
17-1810-1-051-28001	Unfunded balances, prior year							
17-1810-1-051-29001	Unfunded balances, prior year							
17-1810-1-051-30001	Unfunded balances, prior year							
17-1810-1-051-31001	Unfunded balances, prior year							
17-1810-1-051-32001	Unfunded balances, prior year							
17-1810-1-051-33001	Unfunded balances, prior year							
17-1810-1-051-34001	Unfunded balances, prior year							
17-1810-1-051-35001	Unfunded balances, prior year							
17-1810-1-051-36001	Unfunded balances, prior year							
17-1810-1-051-37001	Unfunded balances, prior year							
17-1810-1-051-38001	Unfunded balances, prior year							
17-1810-1-051-39001	Unfunded balances, prior year							
17-1810-1-051-40001	Unfunded balances, prior year							
17-1810-1-051-41001	Unfunded balances, prior year							
17-1810-1-051-42001	Unfunded balances, prior year							
17-1810-1-051-43001	Unfunded balances, prior year							
17-1810-1-051-44001	Unfunded balances, prior year							
17-1810-1-051-45001	Unfunded balances, prior year							
17-1810-1-051-46001	Unfunded balances, prior year							
17-1810-1-051-47001	Unfunded balances, prior year							
17-1810-1-051-48001	Unfunded balances, prior year							
17-1810-1-051-49001	Unfunded balances, prior year							
17-1810-1-051-50001	Unfunded balances, prior year							
17-1810-1-051-51001	Unfunded balances, prior year							
17-1810-1-051-52001	Unfunded balances, prior year							
17-1810-1-051-53001	Unfunded balances, prior year							
17-1810-1-051-54001	Unfunded balances, prior year							
17-1810-1-051-55001	Unfunded balances, prior year							
17-1810-1-051-56001	Unfunded balances, prior year							
17-1810-1-051-57001	Unfunded balances, prior year							
17-1810-1-051-58001	Unfunded balances, prior year							
17-1810-1-051-59001	Unfunded balances, prior year							
17-1810-1-051-60001	Unfunded balances, prior year							
17-1810-1-051-61001	Unfunded balances, prior year							
17-1810-1-051-62001	Unfunded balances, prior year							
17-1810-1-051-63001	Unfunded balances, prior year							
17-1810-1-051-64001	Unfunded balances, prior year							
17-1810-1-051-65001	Unfunded balances, prior year							
17-1810-1-051-66001	Unfunded balances, prior year							
17-1810-1-051-67001	Unfunded balances, prior year							
17-1810-1-051-68001	Unfunded balances, prior year							
17-1810-1-051-69001	Unfunded balances, prior year							
17-1810-1-051-70001	Unfunded balances, prior year							
17-1810-1-051-71001	Unfunded balances, prior year							
17-1810-1-051-72001	Unfunded balances, prior year							
17-1810-1-051-73001	Unfunded balances, prior year							
17-1810-1-051-74001	Unfunded balances, prior year							
17-1810-1-051-75001	Unfunded balances, prior year							
17-1810-1-051-76001	Unfunded balances, prior year							
17-1810-1-051-77001	Unfunded balances, prior year							
17-1810-1-051-78001	Unfunded balances, prior year							
17-1810-1-051-79001	Unfunded balances, prior year							
17-1810-1-051-80001	Unfunded balances, prior year							
17-1810-1-051-81001	Unfunded balances, prior year							
17-1810-1-051-82001	Unfunded balances, prior year							
17-1810-1-051-83001	Unfunded balances, prior year							
17-1810-1-051-84001	Unfunded balances, prior year							
17-1810-1-051-85001	Unfunded balances, prior year							
17-1810-1-051-86001	Unfunded balances, prior year							
17-1810-1-051-87001	Unfunded balances, prior year							
17-1810-1-051-88001	Unfunded balances, prior year							
17-1810-1-051-89001	Unfunded balances, prior year							
17-1810-1-051-90001	Unfunded balances, prior year							
17-1810-1-051-91001	Unfunded balances, prior year							
17-1810-1-051-92001	Unfunded balances, prior year							
17-1810-1-051-93001	Unfunded balances, prior year							
17-1810-1-051-94001	Unfunded balances, prior year							
17-1810-1-051-95001	Unfunded balances, prior year							
17-1810-1-051-96001	Unfunded balances, prior year							
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17-1810-1-051-99001	Unfunded balances, prior year							
17-1810-1-051-10001	Unfunded balances, prior year							
17-1810-1-051-10101	Unfunded balances, prior year							
17-1810-1-051-10201	Unfunded balances, prior year							
17-1810-1-051-10301	Unfunded balances, prior year							
17-1810-1-051-10401	Unfunded balances, prior year							
17-1810-1-051-10501	Unfunded balances, prior year							
17-1810-1-051-10601	Unfunded balances, prior year							
17-1810-1-051-10701	Unfunded balances, prior year							
17-1810-1-051-10801	Unfunded balances, prior year							
17-1810-1-051-10901	Unfunded balances, prior year							
17-1810-1-051-11001	Unfunded balances, prior year							
17-1810-1-051-11101	Unfunded balances, prior year							
17-1810-1-051-11201	Unfunded balances, prior year							
17-1810-1-051-11301	Unfunded balances, prior year							
17-1810-1-051-11401	Unfunded balances, prior year							
17-1810-1-051-11501	Unfunded balances, prior year							
17-1810-1-051-11601	Unfunded balances, prior year							
17-1810-1-051-11701	Unfunded balances, prior year							
17-1810-1-051-11801	Unfunded balances, prior year							
17-1810-1-051-11901	Unfunded balances, prior year							
17-1810-1-051-12001	Unfunded balances, prior year							
17-1810-1-051-12101	Unfunded balances, prior year							
17-1810-1-051-12201	Unfunded balances, prior year							
17-1810-1-051-12301	Unfunded balances, prior year							
17-1810-1-051-12401	Unfunded balances, prior year							
17-1810-1-051-12501	Unfunded balances, prior year							
17-1810-1-051-12601	Unfunded balances, prior year							
17-1810-1-051-12701	Unfunded balances, prior year							
17-1810-1-051-12801	Unfunded balances, prior year							
17-1810-1-051-12901	Unfunded balances, prior year							
17-1810-1-051-13001	Unfunded balances, prior year							
17-1810-1-051-13101	Unfunded balances, prior year							
17-1810-1-051-13201	Unfunded balances, prior year							
17-1810-1-051-13301	Unfunded balances, prior year							
17-1810-1-051-13401	Unfunded balances, prior year							
17-1810-1-051-13501	Unfunded balances, prior year							
17-1810-1-051-13601	Unfunded balances, prior year							
17-1810-1-051-13701	Unfunded balances, prior year			</td				

Other Procurement: Navy (in thousands of dollars) FISCAL YEAR 1990

Program and Financing (in thousands of dollars) FISCAL YEAR 1990

Identification Code	Program by Activity	Budget Plan (Amounts for FY90 of the program)			Budget Plan (Amounts for FY91 of the program)			Budget Plan (Amounts for FY92 of the program)			Budget Plan (Amounts for FY93 of the program)		
		1990 actual	1990 est.	1991 est.	1990 actual	1990 est.	1991 est.	1990 actual	1990 est.	1991 est.	1990 actual	1990 est.	1991 est.
Program by Activity:													
01 0101 Direct program													
01 0101 01 Ships support equipment		1,256,413	1,256,413	1,256,413									
01 0101 02 Communications and electronic equipment		1,126,617	1,126,617	1,126,617									
01 0101 03 Aviation support equipment		510,200	510,200	510,200									
01 0101 04 Ordnance support equipment		510,400	510,400	510,400									
01 0101 05 Civil engineering support equipment		87,000	87,000	87,000									
01 0101 06 Supply support equipment		63,700	63,700	63,700									
01 0101 07 Personnel and command support equipment		446,111	446,111	446,111									
01 0101 08 Spares and repair parts		541,400	541,400	541,400									
01 0101 09 Total direct program		4,886,900	4,886,900	4,886,900									
01 0101 10 Reimbursable program		65,000	65,000	65,000									
01 0101 11 Total		5,051,900	5,051,900	5,051,900									
Financing:													
Disbursing collections from:													
11 0001 Federal funds[1]		17,500	17,500	17,500									
13 0001 Trust funds[1]		-46,000	-46,000	-46,000									
14 0001 Non Federal Resources[1]		-2,500	-2,500	-2,500									
14 0001 Unobligated balance available, start of year													
21 4002 For compilation of prior year budget plans and year													
24 4002 Unobligated balance available, start of year													
24 4002 For compilation of prior year budget plans and year													
40 0001 Budget authority (Appropriation)		4,886,900	4,886,900	4,886,900									

Program and financing (in thousands of dollars) fiscal year 1991

Budget Plan (Amounts for procurement actions proposed)

Identification code	Chargelone					
	1988 actual	1989 est	1990 est	1991 est	1992 est	1993 est
Program by activities:						
00 0101 Direct program:						
00 0101 Ships support equipment	591,050					
00 0101 Communications and electronic equipment	2,014,475					
00 0101 Aviation support equipment	510,329					
00 0101 Ordnance support equipment	902,042					
00 0101 Civil engineering support equipment	97,350					
00 0101 Supply support equipment	441,372					
00 0101 Personnel and command support equipment	479,118					
00 0101 Sales and repair parts	568,966					
00 0101 Total direct program	5,723,900					
01 0101 Re-bursable program	65,000					
10 0101 Total	5,788,900					
Financing:						
Of existing collections from:						
11 0001 Federal funds(1)	-17,500					
13 0001 Trust funds(1)	-65,000					
14 0001 Non-federal sources(1)	-7,500					
24 4002 Unutilized balance available, end of year For completion of prior year budget plans	1,676,761					
40 0001 Budget authority (appropriation)	5,723,900					

BUDGET ACTIVITY 1: SHIP SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
 (\$ In Thousands)

BUDGET PLAN
 (Amounts for Procurement Actions Programmed)

	<u>FY 1988 ACTUAL</u>	<u>FY 1989 ESTIMATE</u>	<u>FY 1990 ESTIMATE</u>	<u>FY 1991 ESTIMATE</u>	<u>JUSTIFICATION PAGE</u>
SHIP PROPULSION EQUIPMENT GENERATORS AND PUMPS	\$34,327 12,026	\$25,121 3,315	\$23,466 7,216	\$30,589 21,916	13 14
AIR COMPRESSORS	1,564	909	586	454	14
PROPELLERS	11,617	4,414	10,065	15,725	15
NAVIGATION EQUIPMENT	11,064	2,238	7,526	10,204	15
UNDERWAY REPLENISHMENT EQUIPMENT	5,882	2,418	7,175	9,522	16
PERISCOPEs	10,757	6,102	20,861	12,956	16
OTHER SHIPBOARD EQUIPMENT:					
SHIP SILENCING	12,657	7,616	17,816	20,825	17
STRATEGIC PLATFORM SUPPORT	52,934	35,954	88,591	56,710	18
DEEP SUBMERGENCE	7,695	6,213	7,380	8,623	18
SHIP SUPPORT IMPROVEMENT	13,481	6,579	8,071	13,385	19
MINESWEEPING EQUIPMENT	1,077	1,181	2,399	3,965	19
SAFETY EQUIPMENT	44,706	19,967	26,338	34,077	20
MISCELLANEOUS	117,464	87,629	63,382	92,439	21

REACTOR PLANT EQUIPMENT	277,819	280,495	373,910	285,647	21
OCEAN ENGINEERING	63,161	85,894	27,478	27,268	22
SMALL BOATS	24,749	12,350	13,448	13,811	23
TRAINING EQUIPMENT	2,176	4,127	5,351	8,437	23
PRODUCTION FACILITIES EQUIPMENT	25,011	28,473	25,354	25,097	24
TOTAL BUDGET PLAN	\$730,167	\$620,995	\$736,413	\$691,650	

BUDGET ACTIVITY 1: SHIPS SUPPORT EQUIPMENT

	(\$ In Thousands)
FY 1991 Estimate	\$ 691,650
FY 1990 Estimate	\$ 736,413
FY 1989 Estimate	\$ 620,995
FY 1988 Actual	\$ 730,167

Purpose and Scope of Work

Budget Activity 1 programs include Shipboard Components, Reactor Cores and Reactor Plant Components, support of the Deep Submergence, TRIDENT and Small Boat procurement programs, and procurement of Production Facilities and Training equipment.

Shipboard components, as well as nuclear components and small boats, are procured for direct support or installation on Active Fleet ships as part of a planned maintenance replacement program or as part of an improvement program. These components are also procured to fill authorized stock requirements. Funding for the Deep Submergence program is aimed at expanding the Navy's capability to live, work, explore, and perform rescue missions in deep ocean areas.

Justification of Funds

Ship Propulsion Equipment (P-1 Line Items 1-5)

	(\$ In Thousands)
FY 1990	\$23,466
FY 1991	\$30,589

These funds will provide for the procurement of equipment designed to improve the reliability, maintainability, fuel efficiency, power output, and durability of the LM 2500 Gas Turbine Engines. The LM 2500 engines were introduced into the Fleet through the DD-963 and FFG-7 Class construction programs and the Allison 501K Gas Turbine engine was introduced into the Fleet through the DD-963, DDG-993, and DD-997 Class ships. These improvements will be accomplished through the procurement of modifications identified as a result of the Component Improvement Program. Existing 1200 and 600 PSI Steam Plants require sufficient funds to modify and improve reliability through the procurement of remote pilot operated safety valves and detectors, diesel engine monitoring systems, boiler safety shut-off devices, steam plant inspection tooling, burner upgrades, boiler burner barrel resurfacing tools, auxiliary boiler control system, and ethylene diamine tetra acetate/hydrazine

injection systems. Funds requested will also procure secondary propulsion motors, shaft seal housing, modification kits for ME831-800 engines, support for LCAC gas turbines, support for marine diesel engines, clutch retrofit kits, outfitting for boiler test centers, and a depot modernization program for SSN 688 class submarines.

Generators and Pumps (P-1 Line Items 6-7)

(\$ In Thousands)	
FY 1990	FY 1991
<u>$\\$ 7,216$</u>	<u>$\\$ 21,916$</u>

Funding requested for these programs will provide for continuation of programs to replace obsolescent, unsupportable, underpowered, and unreliable generators and pumps of various capacities and sizes. These programs also procure equipment to support programmed SHIPALTS. Types of equipment procured include an arcing fault detector for SSN and SSBN overhauls; 60/400 Hz motor generator sets for CG, CGN and DDG class overhauls; 400 Hz current limiting devices for FFG-7 class, DD-963 class and DDG-993 class overhauls; 400 Hz static frequency converters for replacement of those on FFG-7 class ships; air conditioning chill water pumps; trim and drain pumps for SSN's and SSBN's; fire pumps/ends/motors for CVS/CVNs and DDG-37 class, and pumps for the auxiliary/amphibious ship maintenance strategy program, the surface ship advanced equipment repair program, and the depot modernization program for SSN-688 class.

Air Compressors (P-1 Line Items 8-9)

(\$ In Thousands)	
FY 1990	FY 1991
<u>$\\$ 586$</u>	<u>$\\$ 454$</u>

These funds will provide for the procurement of greater capacity and more reliable high pressure air compressors than those currently installed in the Active Fleet. Two 30 Cubic feet/hour air compressors are being procured in FY 1990. These units are essential to the operation of Liquid Oxygen Generating Plants on aircraft carriers in direct support of aircraft. Two additional compressors will be procured in FY 1991.

Propellers (P-1 Line Items 10-11)

	(\$ In Thousands)	
	FY 1990	FY 1991
	\$10,065	\$15,725

The requested funding will provide for the procurement of propellers to reduce the noise signature on FBM and attack submarines and as replacements for those propellers currently installed as casualties occur. Funds are also required for replacement of blades, shafts, and hubs in support of active fleet ships as damage or failure occurs, as well as for support inventories for the newer classes of ships such as FFG-7s, DD-963s, CG-47s, LSD-41s, and the DDG-51s.

Navigation Equipment (P-1 Line Items 12-14)

	(\$ In Thousands)	
	FY 1990	FY 1991
	\$7,526	\$10,204

These funds will procure Electrically Suspended Gyro Navigator field change kits, modification kits and documentation. Funds are also budgeted for maintenance items and newly developed improvements for the AN/WSN-5 Inertial Navigation Sets, plotters, gyro compasses, and for documentation. These improvements provide more precise fire control computation and improved accuracy in support of sophisticated missile systems and for safety.

Underway Replenishment Equipment (P-1 Line Item 15)

	(\$ In Thousands)	
	FY 1990	FY 1991
	<u>\$ 7,175</u>	<u>\$ 9,522</u>

The equipment procured under this program is required to provide the Active Fleet with new or improved underway replenishment-at-sea capability. This equipment is used to transfer fuel, cargo, ammunition, and missiles by both alongside and vertical replenishment techniques. The equipment being procured supports the following objectives: personnel/equipment safety, reduction in maintenance costs, and reduction in alongside time, to minimize ship vulnerability to enemy action. Major equipment includes ram tensioners, highline spanwire winches, sliding padeyes, sliding block slip clutches, flotation devices, and Burton Navy standard spanwire winches, vertical conveyors, saddle winches, and elevator improvements.

Periscopes (P-1 Line Items 16-18)

	(\$ In Thousands)	
	FY 1990	FY 1991
	<u>\$20,861</u>	<u>\$12,956</u>

These funds will provide for the procurement of Type 18 periscope related material and other periscopes and accessories. The Type 18 periscope equipment includes eyepiece boxes and masts required to establish an inventory of these parts based on actual/predicted failure rates and turn around times and Automatic Direction Finding (ADF) modifications to provide ADF capability on SSN-637 and 638 class submarines. Funds are required to procure a Submarine Satellite Information Exchange reception capability on Type 18 periscopes. Type 18 periscope systems will also be procured to establish a rotatable pool of ready-for-issue assets in support of the depot modernization program for SSN 688 class submarines. Field change kits are being procured to implement approved changes on previously procured Type 18 periscopes. Equipment to provide

additional shore/tender based components for other type periscopes is also required to ensure that an issuable periscope is always available as a replacement for damaged units on SSN 594 and 637 class ships. This requirement is based on past demand experience and repair turnaround time. Modifications for Type 8 periscopes to incorporate solid state amplifiers, twelve-channel rotary joints, and improved slip ring assemblies, noise source and sapphire heated head window assemblies will be procured. Type 8 Mod 3 periscopes will be procured to replace existing periscopes on SSN submarines. The improvement over existing equipment is enhanced imaging and communications. Funding will also provide for support and improvement of the Type 2 and 15 series periscopes for all Active Fleet submarines.

Other Shipboard Equipment (Ship Silencing) (P-1 Line Items 22 and 23)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$17,816</u>	<u>\$20,825</u>

The requested funds will provide for the procurement of equipment required to implement the high priority Submarine Silencing program on existing nuclear submarines and for the acoustic quieting of radiated noise and sonar self-noise for surface ships. The submarine silencing equipment incorporates technology developed under RDT&EN programs for improving detection capability and reducing the detectability of the submarine. The surface ship silencing program will make use of the extensive silencing technology already developed under the Submarine Silencing program. FY 1990 and FY 1991 funding for the submarine silencing program includes procurement of equipments supporting the east and west coast acoustic measurement facilities. In addition, FY 1990 and FY 1991 funding for surface ships provides for the procurement of cascade orificial resistive devices for FFG-7 class ships, air systems for CGs; fluid acoustic filters and flexible hose couplings for installation in fire mains on DD-963 and DD-993 class ships; rubber boots to replace stainless steel bellows between the main gear and lube oil sump on DD-963, DD-993 and CG-47 class ships; hub devices for CG-16 class ships; hull coating for CGN-38 class ships; sonar dome baffles for DD-963 and DD-993 class ships; and instrumentation for the Surface Ship Silencing/Trials program.

Other Shipboard Equipment (STRATEGIC PLATFORM SUPPORT) P-1 Lines Item 25 and 26)

	(\$ In Thousands)	
	FY 1990	FY 1991
	<u>\$88,591</u>	<u>\$56,710</u>

Funding for this program provides for hull, mechanical, and electrical equipment required to support maintenance tasks for TRIDENT submarines. The equipment is required to support the operating tempo of FBM submarines and includes funding to develop stock levels for TRIDENT plant equipment and repair (TRIPER) equipments to achieve the required operational availability and to achieve a depot availability period which does not exceed one year; alteration/modification packages for TRIPER equipment to maintain standardization and interchangeability of offsets; long lead material equipment for the advanced equipment replacement program, main shaft seal mating rings, and alteration/modification packages for hull, mechanical and electrical equipment.

Other Shipboard Equipment (Deep Submergence) (P-1 Line Item 27)

	(\$ In Thousands)	
	FY 1990	FY 1991
	<u>\$ 7,380</u>	<u>\$ 8,623</u>

The requested funds will provide for the procurement of hardware to improve/modify Deep Submergence Vehicles to provide the Navy with the capability to rescue personnel from craft disabled on the ocean floor. It also will improve the capability to perform manned underwater search, inspection and recovery missions.

Other Shipboard Equipment (Surface IMA) (P-1 Line Item 32)

	(\$ In Thousands)
FY 1990	FY 1991
\$ 8,071	\$13,385

This program will procure equipment necessary to achieve operational availability and provide funds to upgrade facilities both ashore and afloat (industrial plant and tenders) in order to improve and expand intermediate level maintenance by the surface forces. Shipboard maintenance will emphasize modular replacement with repairables being returned to Intermediate Maintenance Activities and Depot Overhaul Points for repair or rework and return to stock.

Other Shipboard Equipment (Minesweeping Equipment) (P-1 Line Item 30)

	(\$ In Thousands)
FY 1990	FY 1991
\$ 2,399	\$ 3,965

This program will provide for the procurement of minesweeping cables necessary to counter moored and influence mines. These funds will procure Q-3 and S-3 cables, mine neutralization system vehicles, minesweeping controllers, and minesweeping wires.

Other Shipboard Equipment (Safety Equipment) (P-1 Line Items 19, 34, and 36)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$26,338</u>	<u>\$34,077</u>

These funds procure equipment which supports shipboard fire fighting operations, fuel tank inspection, and other activities which can involve the exposure of lungs to noxious substances. Funding will provide the Navy with the latest available safety equipment in order to perform assigned tasks without risking personal injury, provide for the protection of personnel from exposure to nuclear weapons radiation and provide ships of the active fleet with the capability to detect chemical warfare agents before ship contamination occurs. FY 1990 and FY 1991 funding will provide Halon 1301 Fire Fighting systems to complement the existing Aqueous Film Forming Foam/Purple K Dry Chemical Powder hose reel systems in machinery spaces as well as procurement of this system in a mobile/portable form; Oxygen-Breathing Apparatus Voice Amplifiers to improve communications between fire fighting team members; damage control wire free communication systems; shielding which will be affixed to bulkheads and to cradles containing individual weapons on CVs, SSN-688s, non-FBM ASs and at shore facilities; support for the Radiological Affairs Support Office, and chemical warfare directional detectors, chemical agent point detector systems and chemical agent monitors.

Other Shipboard Equipment (Miscellaneous) (P-1 Line Items 20, 21, 24, 28, 29, 31, 33, 35, and 37)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$63,382</u>	<u>92,439</u>

These funds provide for; procurement of Combat System Command and Control Switchboards; equipment which will enable the Navy to comply with Federal law and DOD environmental pollution control regulations; replacement batteries for all active submersible craft/submarines; procurement and positioning of special equipment for merchant ships to provide them with the capability to perform Naval auxiliary roles; provision of specialized equipment to assure reliable repair of electronic modules at selected shore, surface and subsurface fleet activities; air conditioners and equipment for submarines; degaussing equipment for surface ships; and modifications/replacements for all equipment which costs less than \$2,000,000 by category.

Reactor Plant Equipment (P-1 Line Items 40 and 41)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$373,910</u>	<u>285,647</u>

The FY 1990 and 1991 requests provide for the procurement of replacement reactor cores, power units, and other reactor plant components and equipment. Replacement cores and power units are the assemblies of nuclear fuel and necessary associated structural and reactivity control equipment required for the periodic refueling of nuclear powered ships. The procurement of these units is accomplished by the Department of Energy (DOE). The DOE has developed production lines within the civilian nuclear industry to fabricate these units. The funds requested are required to meet the refueling needs of the Navy in a manner most efficient to the government, while ensuring adequate workload to support the industrial base.

The reactor component line item includes the components, equipment, and material required to provide minimum support needed for the continued safe and reliable operations of naval nuclear propulsion plants. Funds are programmed for acquisition of replacement components for ship alterations and specialized equipment necessary for refueling of nuclear powered ships.

Ocean Engineering (P-1 Line Items 42-45)

	(\$ In Thousands)	
	FY 1990	FY 1991
	<u>\$27,478</u>	<u>\$27,268</u>

These programs provide for the procurement of equipment to support safety requirements at the existing depth capabilities and mission duration restriction imposed on the working diver, equipment to improve the Navy's diving capabilities and maintain sufficient levels of critical salvage items, and improved equipment developed as part of Swimmer Support Systems for Underwater Demolition Teams, SEAL Teams, and Inshore Undersea Warfare Groups. FY 1990 and FY 1991 funds will procure the lightweight diving systems; portable recompression chambers; synthetic line; sonar systems for the unmanned submersibles ORION, DEEP DRONE, and CURV III; salvage air compressors; underwater non-destruct test systems; reverse osmosis water purification unit marinization kits; fly away deep ocean salvage systems; 30kW generators; underwater breathing apparatus support packages; underwater remotely operated vehicles; expendable ordinance disposal inflatable craft; chemical warfare protective diving suits; SEAL team, Special Warfare group, and Naval Forces dry suits outfitting; dry deck shelter improvements; rigid inflatable boats; night vision equipment; communications and navigation equipment; and radar beacon transponders.

Small Boats (P-1 Line Item 46)

	(\$ In Thousands)
FY 1990	<u>\$13,448</u>
FY 1991	<u>\$13,811</u>

Standard boats procured with these funds will be used to fill new or revised allowances, to replace obsolete wooden boats now in service, and to replace boats of fiberglass or steel construction which are beyond economical repair. Types of boats to be procured with these funds include the 50' workboat and utility boat; 18' utility boat; 22' utility boat; 33' utility boat; 26' motor whaleboat; 14' Punt; 24' harbor security boat; 40' plane personnel and rescue boat; 65' Explosive Ordnance Disposal Craft and craft-of-opportunity training craft; 44' sail training craft; 70' personnel boat; and 56' range support boat.

Training Equipment (P-1 Line Item 47)

	(\$ In Thousands)
FY 1990	<u>\$ 5,351</u>
FY 1991	<u>\$ 8,437</u>

This program provides equipment for the support of initial training requirements developed through the Navy Training Plan process and sustaining training requirements developed by the Chief of Naval Education and Training.

Production Facilities Equipment (P-1 Line Items 49 and 50)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$25,354</u>	<u>\$25,097</u>

These programs provide for the procurement of replacement cranes for the floating dry dock at Norfolk Naval Shipyard, funding required for industrial plant equipment and other shop equipment necessary to support Navy managed facilities; machine tools, industrial plant equipment and other plant equipment necessary to support the Fleet Operations Program.

BUDGET ACTIVITY 2: COMMUNICATIONS AND ELECTRONIC EQUIPMENT
 SUMMARY OF BUDGET PLAN
 (In Thousands)

BUDGET PLAN
 (Amounts For Procurement Actions Programmed)

	FY 1988 ACTUAL	FY 1989 ESTIMATE	FY 1990 ESTIMATE	FY 1991 ESTIMATE	JUSTIFICATION PAGE
SHIP RADARS	125,436	111,779	60,443	68,100	27
SHIP SONARS (SURFACE SHIPS)	174,138	225,121	212,916	287,011	28
SHIP SONARS (SUBMARINES)	33,610	92,263	98,689	118,132	29
SHIP SONARS (GENERAL SUPPORT)	31,026	30,963	30,269	35,813	29
ANTI-SUBMARINE WARFARE ELECTRONICS (SURFACE SHIPS)	29,645	24,435	36,799	53,187	30
ANTI-SUBMARINE WARFARE ELECTRONICS (SUBMARINE)	61,491	13,544	267,797	254,012	30
ANTI-SUBMARINE WARFARE ELECTRONICS (AVIATION)	18,615	26,688	19,414	21,270	31
ANTI-SUBMARINE WARFARE ELECTRONICS (SURVEILLANCE)	101,645	37,301	36,443	63,287	32
ELECTRONIC WARFARE EQUIPMENT	86,995	75,130	96,280	97,311	32
RECONNAISSANCE EQUIPMENT	54,545	10,026	36,056	26,507	33
SUBMARINE SURVEILLANCE EQUIPMENT	50,517	24,768	19,170	44,111	34
OTHER SHIPBOARD ELECTRONIC EQUIPMENT	185,097	182,899	224,610	353,913	34
TRAINING EQUIPMENT	4,188	441	2,317	16,772	35

AVIATION ELECTRONIC EQUIPMENT	74,175	28,668	83,401	63,282	36
OTHER SHORE ELECTRONIC EQUIPMENT (COMM & CONTROL)	25,538	27,047	31,071	39,281	37
OTHER SHORE ELECTRONIC EQUIPMENT (MISCELLANEOUS)	152,443	239,019	153,295	141,680	38
SHIPBOARD COMMUNICATIONS	35,729	13,851	34,903	45,057	39
SUBMARINE COMMUNICATIONS	13,991	11,910	17,936	31,436	40
SATELLITE COMMUNICATIONS	36,197	19,501	96,193	81,433	40
SHORE COMMUNICATIONS	36,896	22,273	13,461	16,323	41
CRYPTOGRAPHIC EQUIPMENT	171,970	164,906	154,972	150,538	42
CRYPTOLOGIC EQUIPMENT	12,092	12,567	3,896	1,639	43
OTHER ELECTRONIC SUPPORT	2,897	2,394	4,346	4,380	44

TOTAL BUDGET PLAN \$1,518,876 \$1,397,494 \$1,734,677 \$2,014,475

BUDGET ACTIVITY 2: COMMUNICATIONS AND ELECTRONIC EQUIPMENT

	(\$ In Thousands)
FY 1991 Estimate	\$2,014,475
FY 1990 Estimate	\$1,734,677
FY 1989 Estimate	\$1,397,494
FY 1988 Actual	\$1,518,876

Purpose and Scope of Work

Budget Activity 2 programs include the procurement of shipboard and shore communications and electronic equipment for the Active Fleet and training activities. Improved shipboard surface and air search radars are designed to enhance the military capability of combatant ships. Anti-Submarine Warfare Electronics equipment will furnish surface ships, submarines and special shore activities with equipment used for detection, tracking localization and classification of submarines. Special sonars are procured for employment in Fleet Ballistic Missile submarines. Also procured in this budget activity is equipment which will provide the Fleet with the capability of deceiving, intercepting, and analyzing airborne, electromagnetic and underwater radiation for the purpose of executing an effective surveillance and intelligence collection capability.

Justification of Funds

Ship Radars (P-1 Line Items 52-57)

	(\$ In Thousands)
FY 1990	\$60,443
FY 1991	\$68,100

These Ship Radar Procurements provide the Active Fleet with detection, tracking and identification equipment to meet the challenge of high speed attack capabilities of low-flyers, anti-ship missiles and modern aircraft. Specific radars and radar equipment improvements to be procured include the AN/SPS-40 radar system improvements which are designed to increase detection capability in hostile, cluttered, or low-flyer threat environments through improved system

availability and automation techniques (FY 1990 \$8.0 million; FY 1991 \$9.6 million); the AN/SPS-48 radar, a three-coordinate air search radar which has a primary function of providing target position data to a weapon system (FY 1990 \$5.2 million; FY 1991 \$1.3 million); the AN/SPS-49 radar, a narrow beamed, very long-range two dimensional, air search radar (FY 1990 \$4.5 million; FY 1991 \$9.0 million); the Integrated Automatic Detection and Tracking System (AN/SYS-1) which provides the capability to correlate contact data from up to three radars, determine target tracks, and provide a single target output to the ship's command and decision system automatically (FY 1990 \$4.0 million; FY 1991 \$3.1 million); and the MK-23 Target Acquisition System, a rapid reaction, fully automatic, electronic counter-counter-measure capable radar system developed as the target acquisition system for the Improved Point Defense Surface Missile System (FY 1990 \$25.8 million; FY 1991 \$30.5 million). This request also includes funding for procurement of various radar support items (FY 1990 \$12.9 million; FY 1991 \$14.6 million).

Ship Sonars (Surface Ships) (P-1 Line Items 58, 59 and 62)

(\$ In Thousands)		
FY 1990	FY 1991	FY 1991
<u>\$212,916</u>		<u>\$287,011</u>

Funds requested for Surface Ship Sonars include \$8.3 million in FY 1990 and \$19.8 million in FY 1991 for procurement of AN/SQS-26/53/53A sonar improvements. \$192.4 million in FY 1990 and \$253.7 in FY 1991 provides for procurement of the AN/SQQ-89 Surface ASW Combat System. Beginning with FY 1988, the AN/SQQ-89 Surface ASW Combat System is being procured as an integrated system and includes funding previously budgeted separately for the AN/SQS-53B/C, AN/SQS-19, MK 116 FCS and receivers and on-board processors previously budgeted in LAMPS MK III. In FY 1990, equipment will be budgeted to complete AN/SQQ-89 upgrades for seven ships. In FY 1991, equipment is budgeted to complete nine ships. \$12.2 million budgeted in FY 1990 and the \$13.5 million budgeted in FY 1991 provides for the procurement of emergency replacement windows and domes for the AN/SQS-26/53, AN/SQQ-23, AN/SQS-38 sonar systems.

Ship Sonars (Submarines) (P-1 Line Items 60 & 65)

	(\$ In Thousands)	
	FY 1990	FY 1991
	<u>\$98,689</u>	<u>\$118,132</u>

These funds provide for continued procurement of AN/BQQ-5 modification kits required to upgrade previously procured and installed AN/BQQ-5 systems onboard SSN-637 and SSN 688 class submarines and maintenance trainers (FY 1990 \$95.7 million; FY 1991 \$115.2 million). These funds also provide for procurement of AN/BQR-23 Improved Processors and Memory, AN/BQR-15 array modification shipalts, AN/BQQ-9 systems and various other alterations for installation on SSBN class submarines (FY 1990 \$3.0 million; FY 1991 \$2.9 million).

Ship Sonars (General Support) (P-1 Line Items 63 and 64)

	(\$ In Thousands)	
	FY 1990	FY 1991
	<u>\$30,269</u>	<u>\$35,813</u>

These funds procure upgrade equipment for the Transducer Repair Facilities, including Towed Line Array (TLA) plant equipment for the TB-16, AN/SQS-18A(V) 1, and engineering changes for the AN/BQS-14 including the upgrade of the Forward Look portion of this sonar, and AN/BQS-15 (FY 1990 \$9.4 million; FY 1991 \$10.6 million). This request also includes resources to continue procurement of TR-317 transducers for the AN/BQS-11/12/13 and AN/BQQ-5 sonars for use on SSN-594, SSN-637, SSN-688 class submarines; new TR-313 transducers for the AN/SQS-26 Sonar; and Electronic Scanning Switches required to support replacement of unreliable mechanical switches with electronic switches on both surface ships and submarines (FY 1990 \$20.8 million; FY 1991 \$25.2 million).

Anti-Submarine Warfare Electronics (Surface Ships) (P-1 Line Items 67, 71-73)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$36,799</u>	<u>\$53,187</u>

This funding provides for the procurement and support of major ASW electronics systems for installation on deploying ships and those in the Naval Reserve Force. This request includes procurement of AN/SLQ-25 (NIXIE) engineering field change kits in FY 1990 and FY 1991, (FY 1990 \$15.7 million; FY 1991 \$23.3 million) AN/SQR-17 performance improvements and AN/SKR-4 Data Link Modifications required to receive the new DIFAR/DICASS sonobouy frequencies (FY 1990 \$13.1 million; FY 1991 \$12.9 million); improvements to increase the service life of the AN/SQR-15 Towed Array System (FY 1990 \$1.7 million; FY 1991 \$1.9 million); and procurement of kits to upgrade the AN/SQR-18 system to the AN/SQR 18A(V)1 configuration and continued procurement in FY 1990 and FY 1991 of the AN/SQR-18(V) critical angle tow systems which employ the AN/SQR-19 hoist for installation aboard non-variable depth sonar ships (FY 1990 \$6.3 million; FY 1991 \$15.1 million).

Anti-Submarine Warfare Electronics (Submarine) (P-1 Line Items 66, 68 and 69)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$267,797</u>	<u>\$254,012</u>

The request includes \$22.1 million in FY 1990 and \$28.8 million in FY 1991 for Submarine Acoustic Warfare Systems (SAWS) which will provide an enhanced survival capability for submarines to use against enemy torpedoes and a means to reduce the effectiveness of enemy sensors. These funds also provide for procurement of AN/FLR-14/BQR-15 Interface Engineering Changes, procurement of the Acoustic Device Countermeasure (ADC) MK-1 and MK-2 NAE Beacons (MK3); AN/BQH-7 engineering changes and expendable probes, AN/WLR-9/12 engineering changes and the Countermeasure Set Acoustic (CSA) MK 2 Mod 0 for SSBNs and CSA Mk MOD 1 for SSN-637 class submarines, AIR display engineering changes, ADC MK 3, associated SHIPALTS/ECPS and production support. \$95.2 million in FY 1990 is budgeted to backfit three SSN-688 class submarines with Wide Aperture Arrays (WAA) in

addition to \$150.4 million for an AN/BSY-2 Maintenance Trainer. \$83.2 million is budgeted in FY 1991 to procure a Software Maintenance Facility and Module Screening Repair Activity equipment for BSY-1 in addition to \$141.5 million for a BSY-2 Software Support Facility. In addition, \$.2 million in FY 1990 and \$.2 million in FY 1991 are requested for the Acoustic Communications system, a multi-phase program which provides improved tactical acoustic communications systems for the three primary Anti-Submarine Warfare platforms (aircraft, surface ships, and submarines).

Anti-Submarine Warfare Electronics (Aviation) (P-1 Line Items 75 and 76)

(\$ In Thousands)		
FY 1990	FY 1991	
<u>\$19,414</u>	<u>\$21,270</u>	

These funds will procure reliability and operability improvements to tactical ADP equipment and will provide for continued production of UYQ-21 displays in FY 1990 and FY 1991 as well as continued procurement of improvements to the Acoustic Analysis subsystem and UYQ-21 displays. All of these subsystems and displays are components of the Carrier ASW Module of the Carrier Combat Direction System (FY 1990 \$4.2 million; FY 1991 \$4.5 million). The request also includes resources to support procurement of various equipments which support the ASW Operations Center (ASWOCs) which is the land based terminal for ASW area commanders in the overall Navy Command Control System (NCCS). (FY 1990 \$15.2 million; FY 1991 \$16.8 million).

Anti-Submarine Warfare Electronics (Surveillance) (P-1 Line Items 70 and 74)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$36,443</u>	<u>\$63,287</u>

These funds will support both the Sound Surveillance System (SOSUS) and the Towed Array Sensor (SURTASS) programs. Specific items to be procured in SOSUS include ship improvement equipment, cable replacement and engineering, trainer hardware and configuration changes, searchlight processing, cable and shore electronics (FY 1990 \$21.1 million; FY 1991 \$38.7 million). The funds requested in FY 1990 and FY 1991 for SURTASS will procure shore electronic units, back-up arrays, high ambient array kits, field changes modifications, and equipment for a second trainer and will also provide for procurement of special project hardware. (\$15.3 million in FY 1990; \$24.6 million in FY 1991).

Electronic Warfare Equipment (P-1 Line Items 77-84)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$96,280</u>	<u>\$97,311</u>

The FY 1990 and FY 1991 Electronic Warfare Procurement provides the Fleet with systems that have the capability of detecting overt electromagnetic emissions through passive means. Specific systems to be procured include the AN/SLQ-32, a family of modular shipborne electronic warfare equipments to be installed in most combatants and auxiliaries in the surface Navy. \$78.0 million in FY 1990 will procure five AN/SLQ-32(V) 3 systems and Electronic Warfare Improvements as follows: Direction Finding (DF) Accuracy Improvement (Band 1), Electronic Support Measures (ESM) Sensitivity Improvements (Band 1 and 3), Band 3 ESM HAT, Antenna Enclosure Improvements, and Electromagnetic Interference (EMI) Improvements. \$79.2 million in FY 1991 will procure six AN/SLQ-32(V) 3 systems, and EW Improvements. The Integrated Cover and Deception Systems (ICADS) provides electronic equipment for coordinated cover and deception capabilities to the

Battle Group Commanders. \$3.8 million budgeted in FY 1990 and \$4.8 million in FY 1991 are for the modernization of 6 AN/SSQ-74 systems and for a land based test facility for the modernized AN/SSQ-74 system. The Electronic Warfare Support Equipment procures equipment and devices to (1) maintain the integrity of USN C3 networks and targeting systems by preventing adversary access, (2) assess the performance and stability of USN communications links/networks, radars and electronic countermeasures for airborne and shipboard electromagnetic systems, and (3) simulate hostile electronic countermeasures and weapons targeting functions. \$5 million in FY 1990 and \$1.2 million in FY 1991 procure reprogrammable terminals, Processors and printers. \$5.9 million budgeted in FY 1990 and \$6.1 million budgeted in FY 1991 are for procurement of Chaff Buoys, Active Electronic Buoys (AEB), and DLF-1/2 Buoys. The AN/WLR-8 (V)2 is a tactical Electronic Warfare Support Measures receiver for the SSN 688 class submarines providing intercept, surveillance and signal parameter analysis of the electromagnetic signals for threat warning. \$8.1 million budgeted in FY 1990 and \$6.0 million budgeted in FY 1991 provides for the procurement of AN/WLR-8 field change kits.

Reconnaissance Equipment (P-1 Line Items 85-88)

(\$ In Thousands)		
FY 1990	FY 1991	
<u>\$36,056</u>	<u>\$26,507</u>	

This funding will provide the tactical capability to detect, locate and identify hostile targets at long range and input this information into the ship's Tactical Data Systems. \$27.8 million budgeted in FY 1990 and \$17.4 million in 1991 are for procurement of Combat Direction Finding Systems. \$1.4 million budgeted in FY 1990 and \$1.5 million budgeted in FY 1991 are for Procurement of Combat Cryptologic Support Consoles (CCSC). \$6.9 million budgeted in FY 1990 and \$7.7 million in FY 1991 is for procurement of equipment to update the intelligence centers in Aircraft Carriers and other ships.

Submarine Surveillance Equipment (P-1 Line Items 90 and 92)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$19,170</u>	<u>\$44,111</u>

The funding requested provides for special equipment in support of submarine surveillance operations. \$16.2 million budgeted in FY 1990 and \$37.6 million budgeted in FY 1991 are for procurement of modifications to the existing AN/WLQ-4 (V) installed on the SSN-637 Class submarines and Mini-N-Suite signal intelligence augmentation modification kits, both installed on the SSN-637 Class submarines. \$3.0 million budgeted in FY 1990 and \$6.5 million in FY 1991 are for the procurement of unique equipments that are maintained in limited quantities at Submarine Surveillance Equipment Program Support Facilities for use onboard nuclear attack submarines as well as for procurement of improved power supplies for AN/WLR-8 (V)2 systems.

Other Shipboard Electronic Equipment (P-1 Line Items 93 - 97, 99 - 103)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$224,610</u>	<u>\$353,913</u>

\$68.5 million budgeted in FY 1990 and \$81.3 million budgeted in FY 1991 provides for procurement of improvements to the Navy Tactical Data System (NTDS) which permits major warships rapid integration of ship sensor information, analysis and display of tactical information and designation of weapon systems to force threats. \$ 121.6 million budgeted in FY 1990 and \$207.5 million budgeted in FY 1991 are for electronic equipment for the TRIDENT Training Facility (TRITRAFAC) , in addition to upgrading the AN/BQQ-6 sonars to the AN/BQQ-5E configuration, and to add Compact VHF receivers to the submarine radio rooms. The request also includes resources to support procurement of equipment for the Armed Forces Radio and Television Service (AFRTS) which operates radio and television outlets for the shipboard information training and entertainment of United States servicemen and their dependents at sea or on shore (FY 1990 \$5.2 million; FY 1991 \$5.5 million) . \$8.9 million budgeted in FY 1990 and \$9.9 million budgeted in FY 1991 are for procurement of mine hunting sonars for Minesweeping Boats (MSBs) , route survey sonars for Ocean going Minesweepers (MSOs) , and precise navigation equipment.

\$13.0 million budgeted in FY 1990 and \$9.7 million budgeted in FY 1991 are for procurement of shipboard and manpack receiver equipment for the NAVSTAR Global Positioning System (GPS), a joint service program which will provide a continuous, world-wide three-dimensional positioning/navigation capacity to the operational forces. \$1.2 million budgeted in FY 1990 and \$1.9 million budgeted in FY 1991 are for procurement of the Link II Programmable Data Terminal Set. \$6.2 million budgeted in FY 1990 and \$5.3 million budgeted in FY 1991 are for procurement of Tactical Flag Command Centers (TFCC) which support the tactical commander by receiving and displaying information relative to the current tactical situation. FY 1991 begins funding (\$8.4 million) for the procurement of C2 processor systems that will provide for the interoperability of tactical digital communications links and information processing systems in Navy Ships. Also, beginning in FY 1991, \$25.4 million will procure Link 16 terminals that will provide the Navy with a more secure, higher data rate system for tactical data and voice communications.

Training Equipment (P-1 Line Items 104-105)

(\$ In Thousands)		
FY 1990	FY 1991	
\$2,317	\$16,772	

The FY 1990 and FY 1991 requests are for procurement of equipment to satisfy initial training requirements developed through the Navy Training Plan process which will give the Navy the capability to train officer, operator and maintenance personnel on new significantly modified equipment for which no Navy training is currently available. It also satisfies requirements to expand the Navy training capability on existing equipment to meet heavier needs for trained personnel in the Fleet.

Aviation Electronic Equipment (P-1 Line Items 106-114)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$83,401</u>	<u>\$63,282</u>

The FY 1990 and FY 1991 request for Aviation Electronic Equipment provides for procurement of electronic equipment to support Naval and Marine aviation shore activities, shipboard aircraft control equipment and secure identification systems. The Marine Air Traffic Control and Landing System (MATCALS) will provide a fully automatic air traffic control and landing system. \$15.4 million budgeted in FY 1990 and \$13.3 million budgeted in FY 1991 are for the procurement of three AN/TPS-73 radars, four Shipboard Marine Remote Area Approach and Landing Systems (SMRALS) and various Marine squadron support equipment. The Shipboard Air Traffic Control (SATC) program will improve air traffic control in the Fleet. SATC funding includes \$6.9 million in FY 1990 and \$8.3 million budgeted in FY 1991 for procurement of two Amphibious Air Traffic Control (AATC-DAIR) systems for LPHs and LHAs in FY 1990 and FY 1991. An Amphibious Air Traffic Control field change kit will be procured in FY 1991 to back-fit existing Carrier Air Traffic Control Center (CATCC) systems to provide commonality in support equipment. An additional \$13.3 million budgeted in FY 1990 and \$6.8 million budgeted in FY 1991 are for procurement of three AN/SPN-46(V) systems to replace aging AN/SPN-42A Automatic Carrier Landing Systems. \$4.2 million budgeted in FY 1990 and \$4.2 million budgeted in FY 1991 are for procurement of Tactical Air Navigation (TACAN) equipment for Navy ships. Procurement of 25 OE-273(V) /URN antennas and 35 AN/URN-25 beacon transmitters in FY 1990 and FY 1991 will reduce current shortages of these vital, short-range navigation equipments. \$10.9 million budgeted in FY 1990 and \$13.1 million budgeted in FY 1991 are for procurement of various equipments to improve the MK XII Identification Friend or Foe air traffic control radar system used as a secure identification system on all major combatant ships, selected auxiliaries, patrol craft and selected Coast Guard ships. Major items planned for procurement include 168 AN/UPM MK XIII test sets, seven AN/UPX-25 interrogator systems, 149 AN/UPA-59B video decoder group, and various MK XII AIMS improvements to insure that all systems are properly interfaced and capable of optimal operation.

The Air Station Support Equipment program addresses air traffic control requirements and enhances flight safety at Navy and Marine Corps Air Stations. The budget request for Air Station Support Equipment includes \$6.1 million in FY 1990 and \$7.2 million in FY 1991 for Fiber Optic Cable systems, 75 multi-channel recorder replacements, 20 AN/UPM-137A test set replacements, eight AN/TPN-30 Radar Sets, and various communication system replacements. \$1.4 million budgeted in FY 1990 and \$1.5 million budgeted in FY 1991 are to procure 53 NOVA 3/12 computer replacements with computer systems integration and modification kits for the NOVA 3/12 computer display processor. \$5.9 million is budgeted in FY 1991 for a service life extension program for the AN/FPN-63 precision approach radar to keep it operational until replaced by the Microwave Landing Systems (MLS). The MLS is a joint DOT/DOD/NASA project to create a common civil/military precision landing system which will overcome the limitations of existing landing systems. \$25.2 million budgeted in FY 1990 and \$3.0 million budgeted in FY 1991 are for procurement of Fleet Area Control and Surveillance Facilities (FACSFAC) communication modernizations, FACSFAC Air Control Tracking System (FACTS) modifications, and increased hardware and software maintenance capability and upgrade of the Joint Air Reconnaissance Control Center (JARCC).

Other Shore Electronic Equipment (Command and Control) (P-1 Line Items 115-119)

(\$ In Thousands)	
FY 1990	FY 1991
\$31,071	\$39,281

The funds budgeted for Tactical Receive Equipment (TADIX-B), \$11.9 million in FY 1990 and \$15.6 million in FY 1991, will provide designated platforms with the capability to receive near real time contact data reports via a UHF Communications Link. These funds will also procure electronic equipment for replacement of obsolete equipment of the Navy Space Surveillance System to support unaltered real-time detection of non-radiating satellites and other objects which pass through multistatic continuous wave radar beams (FY 1990 \$.8 million; FY 1991 \$2.5 million). Additional funding includes resources to support the Space System Processing System, procurement of special computer hardware and software necessary to improve information processing and generation of highly classified reports for use by Operational Navy Command (FY 1990 \$1.1 million). The Navy Command and Control System (NCCS) Ashore program (\$17.8 million in FY 1990 and \$21.0 million in FY 1991) provides for the coordination and integration of shore based command centers and their respective systems; resources will procure baseline command center upgrades, communications

hardware, maritime defense zone C3 equipment, correlation upgrade equipment, replacement equipments, and formatted message origination systems. \$.1 million budgeted in FY 1990 and \$.2 million budgeted in FY 1991 provides for LINK 4 upgrades for the Multiple Unit Link Eleven Test and Operational Training System (MULTOTS), a transportable system to validate Link II interoperability on Tactical Data Systems equipped ships and aircraft.

Other Shore Electronic Equipment (Miscellaneous) (P-1 Line Items 120-126)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$153,295</u>	<u>\$141,680</u>

Funding of \$86.6 million in FY 1990 and \$79.6 million in FY 1991 is for procurement of two wide area surveillance systems (Over the Horizon Radars) to provide targeting information to tactical commanders afloat. The request also includes \$4.0 million budgeted in FY 1990 and \$4.9 million budgeted in FY 1991 for Radiation Detection Indication and Computation Equipment Program (RADIAC) to detect and measure nuclear and ionizing radiation and to convert these measurements into meaningful terms so that Navy personnel can adequately control personnel exposure to those radiations. Funds in the amount of \$17.3 million in FY 1990 and \$18.4 million in FY 1991 are for the procurement of General Purpose Electronic Test Equipment (GPIETE) for initial outfitting of new or modified Fleet and shore electronic equipment. Funding of \$4.1 million on FY 1990 and \$4.1 million in FY 1991 is for procurement of equipment required for the Integrated Combat System Test Facility (ICSTF), located at San Diego, California, the only permanent Navy Test facility for integrated shipboard combat system certification and for continuation of engineering for modification of combat systems in existing ships. Funding of \$7.4 million budgeted in FY 1990 and \$8.0 million in FY 1991 is for procurement of a new generation of signal generators and oscillator calibrators capable of calibrating up to 18 GHz to support test equipment for FFG-7 and DD-963 class ships and TRIDENT submarines and up to 40 GHz to support test equipment for SSN-637 and SSN-688 class submarines. Funding of \$9.4 million in FY 1990 and \$10.3 million in FY 1991 is for procurement of emergency field change kits and hardware devices to solve Electromagnetic Interference (EMI) problems in electronic systems and equipments throughout the operating forces. The FY 1990 and FY 1991 requests also include resources to support procurement of replacements for deteriorating and obsolete management equipment, for facilitization of the AN/UYK-43 and 44 depots and for procurement of AN/UYK-1 and 2 hardware (FY 1990 \$24.5 million; FY 1991 \$16.4 million).

Shipboard Communications Equipment (P-1 Line Items 127-134)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$34,903</u>	<u>\$45,057</u>

Funding of \$4.0 million in FY 1990 and \$9.1 million in FY 1991 is for the High Frequency (HF) Shipboard Communications program to update the capabilities of the current HF Communications Systems. Funding of \$1.5 million in FY 1990 and \$2.2 million in FY 1991 is for procurement of OA-9123 transceiver multicoupler and VHF multicoupler which replaces obsolete equipment. Funds in the amount of \$9.8 million in FY 1990 and \$9.6 million in FY 1991 are for procurement of portable specialized radios to support the unique air, sea and land environment of the Explosive Ordnance Disposal (EOD) mission as well as funding for modernization of Naval Beach/Group Construction Force Communications/Tactical Air Control Squadrons (TACRONS) to remain compatible with the Fleet Marine Force and the Amphibious Surface Fleet. Funding of \$10.1 million in FY 1990 and \$15.1 million in FY 1991 is for procurement of communications systems to automate message processing and distribution functions aboard ship. Funding of \$6.7 million in FY 1990 and \$7.2 million in FY 1991 is for completion of communications suites aboard ship. Funding of \$2.8 million in FY 1990 and \$1.8 million in FY 1991 is to procure the flight deck communications system.

Submarine Communications Equipment (P-1 Line Items 135-139)

These resources will procure communications equipment for Command and Control of the Fleet Ballistic Missile (FBM) and Attack Submarine Forces. Funds in the amount of \$3.8 million in FY 1990 and \$1.5 million in FY 1991 are for procurement of Low Frequency/Very Low Frequency (LF/VLF) communications hardware, upgrades and high efficiency amplifiers. Funding of \$4.5 million in FY 1990 and \$1.9 million in FY 1991 is for procurement of the Integrated Submarine Automated Broadcast Processing System Phases I and II. These requirements are part of the VERDIN VLF communications system. Funding of \$9.6 million in FY 1990 and \$16.7 in FY 1991 is for procurement of submarine communications equipment consisting of antennas, mast assemblies and buoyant cable antennas. Beginning in FY 1991 funding of \$11.3 million is for the procurement of miniaturized VLF design data processing receiving sets that replace the current VLF systems.

(\$ In thousands)

	FY 1990	FY 1991
	<u>\$17,936</u>	<u>\$31,436</u>

Satellite Communications Equipment (P-1 Line Items 140-141)

FY 1990 and FY 1991 Satellite Communications procurements provide for adequate command, control and communications among shore stations, ships, submarines and selected aircraft through the Ultra High Frequency (UHF) Super High Frequency (SHF) and Extremely High Frequency (EHF) bands. Funding of \$96.2 million in FY 1990 and \$81.4 million in FY 1991 is for procurement of Demand Assigned Multiple Access (DAMA) systems; Submarine SATCOM Communications equipment; Battle Group SATCOM terminals consisting primarily of Officer in Tactical Command Information Exchange Subsystem (OTCIXS) and Tactical Data Information Exchange Subsystem (TADIXS); Radio Direction Finding Communications (RDF Comms); Support equipment for the SHF shipboard terminals; EHF jam resistant low probability of intercept connectivity terminals and replacement coder equipment to make Navy ships interoperable with Army and Air Force Secure Voice systems.

(\$ In thousands)

	FY 1990	FY 1991
	<u>\$96,193</u>	<u>\$81,433</u>

Shore Communications Equipment (P-1 Line Items 143-151)

(\$ In Thousands)		
FY 1990	FY 1991	
<u>\$13,461</u>	<u>\$16,323</u>	

Funding of \$1.5 million budgeted in FY 1990 and \$1.5 million budgeted in FY 1991 funds the Joint Service Modernization of the Joint Chiefs of Staff (JCS) Communications equipment. Funding of \$.3 million in FY 1990 and \$.3 million in FY 1991 is for procurement of emergency generators and Uninterruptable Power Systems for installation at various Naval Communication activities worldwide. Funding of \$3.3 million in FY 1990 and \$9.0 million in FY 1991 is for procurement of equipment and field change kits to replace obsolete High Frequency (HF) assets used to enable Naval Telecommunications to be viable in the absence of satellite communications. Funding in the amount of \$.3 million in FY 1990 is for procurement of manual suite upgrades which will provide functional standardization of Technical Control Facilities. Funding of \$1.3 million in FY 1990 and \$1.1 million in FY 1991 is for procurement of AN/FCC-100's which will convert the worldwide Defense Communications system to all digital terminals. Funding of \$3.4 million in FY 1990 is for procurement of microwave facilities in the worldwide Defense Communications System (DCS). Funding of \$2.9 million in FY 1991 is for procurement of Remote Automated Terminals. Funding of \$.5 million in FY 1990 and \$.5 million in FY 1991 is for procurement of various communications equipment which supports the Worldwide Military Command and Control System (WMMCCS). Funding of \$2.9 million in FY 1990 and \$1.0 in FY 1991 is for procurement of various other value items to support numerous Naval Shore Telecommunications Programs.

Cryptographic Equipment (P-1 Line Items 153-166, 168)

(\$ In Thousands)	
FY 1990	FY 1991
<u>\$154,972</u>	<u>\$150,538</u>

The FY 1990 and FY 1991 request will procure sufficient secure voice equipment to provide secure voice protection to an additional share of Navy's identified critical narrowband/wideband secure voice requirements. Funding of \$3.2 million in FY 1990 is for procurement of the Single Audio System (SAS), a system where all shipboard radio voice subscribers have access to either a plain or cryptographically covered circuit, on an as required and programmed basis. The SAS will provide manual voice switching suites for smaller ships and an automated switching suite for larger ships. Both switching systems utilize a switch which is modularly expandable to suit the needs of various platforms. Funding of \$22.8 million in FY 1990 and \$21.6 million in FY 1991 is for procurement of TSEC/KY-71/72 equipments which will provide subscriber expansion and improvement over the secure voice capability presently provided by AUTOSEVOCOM I. New features include digital transmission, end-to-end secure voice with conferencing, better voice quality, and lower bit rate. Funding of \$23.0 million in FY 1990 and \$18.3 million in FY 1991 is included for procurement of the TSEC/KG-84, a general purpose key generator capable of satisfying a wide variety of requirements which is designed to serve as the future standard link encryption device for low to medium speed record and/or data system. Funding of \$7.6 million in FY 1990 and \$18.1 million in FY 1991 is requested for TSEC/KY-57/58, a wideband, push-to-talk (half-duplex) tactical speech security system for use in VHF/UHF communications. Funding of \$37.8 million in FY 1990 and \$42.7 million in FY 1991 is for procurement of the TSEC/KYV-5, the Cryptographic module for the Advance Narrowband Digital Voice Terminal (ANDVIT) which satisfies requirements for secure narrowband communications which cannot be met by existing equipment. Funding of \$8.0 million in FY 1990 and \$9.5 million in FY 1991 is for procurement of the TSEC/KG-81, a full-duplex, high speed digital data encryption systems for bulk encryption of the most vital DCS links. Funding of \$3.8 million in FY 1990 and \$4.2 million in FY 1991 is for procurement of Blacker Cryptographic material which provides multilevel security capabilities to support Command and Control systems. Funding of \$8.2 million in FY 1990 and \$4.6 million in FY 1991 is for procurement of the TSEC/KG-58/KGV-6, required to secure Marine Corps Ultra High Frequency Multi-Channel Communications in the Position Location and Reporting System (PLRS). Funding of \$7.5 million in FY 1990 and \$6.4 million in

FY 1990 is for procurement of the TSEC/KGV-11, a general purpose communications security module designed for use with wide spectrum communications. Funding of \$8.3 million in FY 1990 and \$8.1 million in FY 1991 is for procurement of communications security (COMSEC) items of relatively low dollar value to meet special operational requirements. Funding of \$17.1 million in FY 1990 and \$9.0 million in FY 1991 is for procurement of COMSEC devices for the TRI-TAC switches. Funding of \$.4 million of \$2.2 million in FY 1990 and \$.4 million in FY 1991 is for procurement of the TEMPEST test equipment. Funding of \$1.2 million in FY 1990 and \$1.2 million in FY 1991 is for procurement of the KYK-13 battery operated transfer devices and the KOI-18 which is a lightweight battery operated device for reading light-level punched type. Funding of \$2.1 million in FY 1991 is for procurement of the KGV-8, a general purpose half-duplex module which supports COMSEC and transmission security (TRANSEC) for the Navy and Marine Corps. Funding of \$5.1 million in FY 1990 and \$4.3 million in FY 1991 is for procurement of the KGR-96 which provides encryption/decryption for the TADIX-B satellite data link.

Cryptologic Equipment (P-1 Line Items 169, 171 - 174)

(\$ In Thousands)		
FY 1990	FY 1991	FY 1991 \$1,639
\$3,896		

These resources provide equipment to support Tactical Cryptologic missions and functions. Funding of \$1.3 million in FY 1990 and \$.6 million in FY 1991 continues procurement of the Carry-on Special Intelligence Communications equipments and the Special Intelligence Ship-Shore Teletype replacements equipments. Funding of \$.8 million in FY 1990 and \$.5 million in FY 1991 continues procurement of various low cost replacement and cryptologic training equipments for use at U.S. Navy shore sites, training commands, and aboard U.S. Navy combatants. Funding of \$.6 million in FY 1990 and \$.4 million in FY 1991 procures cryptologic systems for use at U.S. Navy ashore reserve training sites. Funding of \$.2 million in FY 1990 and \$.1 million in FY 1991 continues procurement of cryptologic systems for use at U.S. Navy ashore reserve training sites to ensure that cryptologic technicians maintain proficiency in various languages and manual Morse. Funding of \$1.0 million in FY 1990 continues procurement of cryptologic support systems to be installed at various worldwide shore sites which are used in conjunction with afloat cryptologic systems to ensure that accurate tactical data bases are maintained.

Other Electronic Support (P-1 Line Items 175-177)

(\$ In Thousands)		
FY 1990	FY 1991	
<u>\$4,346</u>	<u>\$4,380</u>	

This funding will procure critical repairable equipments in support of planned maintenance schedules and corrective maintenance actions for the FFG (LO-MIX) and DD (Engineering Operation Cycle) class ships, dedicated test stations, industrial plant equipment, and test jigs and fixtures for selected depot rework facilities in support of new maintenance strategies for the FFG and DD (EOC) Class ships (FY 1990 \$3.7 million; FY 1991 \$4.0 million). In addition, funding of \$6 million in FY 1990 and \$4 million in FY 1991 is for procurement of war reserve communications equipment, RADIAC and ancillary equipments for Advance Base Functional Components which are planned groupings of personnel, material and equipment tailored to support overseas base deployment.

BUDGET ACTIVITY 3: AVIATION SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
(In Thousands)

Budget Plan
(Amounts for Procurement Actions Programmed)

	FY 1988 Actual	FY 1989 Estimate	FY 1990 Estimate	FY 1991 Estimate	Justification Page
Sonobuoys	\$167,646	\$132,364	\$115,435	\$104,141	46
General Purpose Bombs	161,178	121,686	88,743	92,544	47
Air Launched Rockets	45,464	9,240	18,849	19,153	48
Aircraft Machine Gun Ammunition	14,035	12,867	13,364	13,591	49
Bigeye Chemical Weapon	-0-	4,751	-0-	9,247	49
GATOR	6,400	13,219	9,662	9,532	50
Miscellaneous Ordnance and Support	51,940	31,464	77,186	93,345	50
Weapons Range Support Equipment	34,405	52,039	52,223	52,480	51
Aircraft Launching and Recovery Equipment	52,303	29,055	41,173	41,976	52
Aircraft Rearming Equipment	26,583	7,117	15,552	10,442	52
Airborne Mine Countermeasures Equipment	11,640	22,367	24,996	24,679	53
LAMPS MK III Shipboard Equipment	22,287	7,851	14,568	6,288	53
Other Aviation Support	47,510	46,824	38,647	51,111	54
Total Budget Plan	\$641,391	\$490,844	\$510,398	\$528,529	

BUDGET ACTIVITY 3: AVIATION SUPPORT EQUIPMENT

	(\$ in Thousands)
FY 1991 Estimate	\$528,529
FY 1990 Estimate	\$510,398
FY 1989 Actual	\$490,844
FY 1988 Actual	\$641,391

Purpose and Scope of Work

Budget Activity 3 finances the procurement of all air-delivered ordnance required for the Navy forces and Marine Air Wings, except guided missiles funded under the Weapons Procurement, Navy (WPN) appropriation. It also includes air launched anti-submarine warfare (ASW) sensors, general support equipment associated with aircraft and other aviation support which includes ground electronics equipment, aircraft launching and retrieving equipment, photographic equipment, reconnaissance and electronic warfare processing and analysis equipment and miscellaneous other categories.

Justification of Funds

Sonobuoys (Includes P-1 Line Item Nos. 178-183)

	(\$ in Thousands)
FY 1990	\$115,435
FY 1991	\$104,141

The FY 1990 and FY 1991 Sonobuoy procurement has been computed considering the number of ASW carrier air groups and shore based ASW patrol squadrons to be supported, actual and planned peace-time usage for these forces and the necessary training allowance requirements. User aircraft include the S-3A, P-3, SH-2D, and SH-3 series. Specific sonobuoys to be procured in FY 1990 and FY 1991 include the AN/SSQ-53 (DIFAR), a passive directional sonobuoy used during the target localization phase of the air ASW Mission (FY 1990 \$70.6 million; FY 1991 \$52.9 million), the AN/SSQ-62 (DICASS) Sonobuoy, an active directional sonobuoy (FY 1990 \$22.2 million; FY 1991 \$21.9 million), the AN/SSQ-36 Bathythermograph Sonobuoy, an air-dropped bathythermograph transmitting set

that provides a vertical water temperature profile (FY 1991 \$2.9 million); and the AN/SSQ-77 (VLAD) Sonobuoy, a passive directional sonobuoy utilizing a line array of omni-directional hydrophones and a DIFAR element. The directional beam patterns are formed from the line array to discriminate against noise and the DIFAR enables determination of the azimuthal bearing of detected sound (FY 1990 \$22.7 million; FY 1991 \$24.7 million). The FY 1991 request also includes funding to support procurement of Signal Underwater Sound (SUS) devices which are expendable, high energy acoustic sources used for many applications including bottom mapping, long range signal transmission and position fixing (FY 1991 \$1.8 million).

General Purpose Bombs (P-1 Line Item Nos. 185, 193)

(\$ in Thousands)	
FY 1990	FY 1991
<u>\$88,743</u>	<u>\$92,544</u>

These funds will procure various components for the Navy's present MK-80 series general purpose bombs including fins/retarders, fuzes, solid nose plugs, and arming wire kits and Dexter clips, and also several types of practice bombs. \$16.6 million in FY 1990 and \$15.0 million in FY 1991 are requested for procurement of BSU-33A/B fins that are replacing the old MK-82 conicals, BSU-86 fins that replace Snakeye fins used with MK-82 bombs in the retard mode, and BSU-85 air inflatable retarders that provide new high-speed, low-level release capability for the MK-83 bomb. \$17.4 million in FY 1990 and \$18.5 million in FY 1991 are requested for procurement of the FMU-139 electronic fuze used with MK-80 series bombs and for the DSU-30 proximity sensor. \$1.7 million in FY 1990 and \$1.8 million in FY 1991 are requested for procurement of the new MXU-735 nose plug which enhances delivery accuracy and penetration and for arming wires that provide fuze initiation after bomb release and Dexter clips that establish compatibility with composite aircraft for high speed release and carriage. Since no BLU-110/111 (PBX-loaded MK 83/MK 82) bomb bodies are being procured in FYS 1990 and 1991, budgeted component buys will be used to make up all-up-rounds of existing bomb bodies in the inventory. With respect to practice bombs \$16.4 million in FY 1990 and \$16.0 million in FY 1991 are requested for procurement of sub-caliber MK-76 and BDU-48 bombs used for training pilots respectively in the delivery of unretarded MK-80 series bombs and in retarded and lay-down deliveries. \$14.0 million is requested in FY 1990 to procure practice rokkeye bombs. \$10.7 million

in FY 1990 and \$25.1 million in FY 1991 are required to procure full-sized MK-80 series inert bombs including the BDU-45 NTP (MK-80) and the MK-83 Inert NTP. In FY 1991 \$5.3 million is requested to procure the unpowered Laser Guided Training Round (LGTR). The LGTR is a low-cost device used for basic Laser Guided bomb and Skipper training exercises and tactics development and will help to maintain the critical weapons stockpile. \$4 million in FY 1990 and \$.8 million in FY 1991 are requested to procure CXU-3 and MK-4 signals which provide smoke signals upon bomb impact. In addition to these general purpose/practice bomb hardware procurements, \$10.4 million in FY 1990 and \$9.9 million in FY 1991 are requested for production engineering support, product improvement efforts including BDU trainer reliability and maintainability improvements, gauging, renovation components, non-standard items, and integrated logistics support planning.

Air Launched Rockets (P-1 Line Item No. 190)

(\$ in Thousands)	
FY 1990	FY 1991
\$18,849	\$19,153

This category consists of the ZUNI 5.0" Rocket and 2.75" Rocket systems. The ZUNI and 2.75" rocket systems are air-to-ground weapons consisting of a variety of warheads and are fired from a four-round (Zuni) and a seven/nineteen (2.75) cylindrical launcher. Both rocket systems are cleared for use on the following USN and USMC aircraft: A4, A6, A7, F/A-18 AH1, AV-8 and OV10. Funding of \$18.8 million in FY 1990 and \$19.2 million in FY 1991 is requested for the 2.75" wrap around Fin Rocket system.

Aircraft Machine Gun Ammunition (P-1 Line Item No. 192)

	(\$ in Thousands)	
	FY 1990	FY 1991
	<u>\$13,364</u>	<u>\$13,591</u>

This category includes procurement of 20mm and 25mm ammunition used with various aircraft (A-7E, F-14, F/A-18, AH-1, and AV-8B) gun systems. Funding of \$10.1 million in FY 1990 and \$10.3 million in FY 1991 is requested for procurement of 20mm practice gun ammunition used with various aircraft gun systems for fleet training to maintain pilot proficiency and war reserve. Funding of \$1.1 million in FY 1990 and \$1.0 million in FY 1991 is to procure 25mm high explosive incendiary (HEI) and armor-piercing incendiary (API) series ammunition for war reserve requirements for the AV-8B. Included in this program is \$1.4 million in FY 1990 and \$1.4 million in FY 1991 for production/engineering support of ammunition procurements and associated gauging and integrated logistics support planning. In addition, funding of \$.8 million is provided in FY 1990 and \$.9 million in FY 1991 for a product improvement efforts to increase the safety and reliability of the 25mm fuze, to satisfy 25mm insensitive munitions requirements, to complete work on fragmentation and ricochet problems in 25mm TP ammunition, to incorporate a radiation-safe primer into the improved 20mm ammunition, and to assess the feasibility of using an aluminum cartridge case for the improved 20mm ammunition.

BIGEYE Chemical Weapon (P-1 Line Item No. 199)

	(\$ in Thousands)	
	FY 1990	FY 1991
	<u>-0-</u>	<u>\$ 9,247</u>

The BIGEYE is an air-launched binary chemical bomb. It generates and delivers a lethal, persistent nerve agent created by combining two non-toxic chemicals. BIGEYE will provide enhanced safety and reliability to the existing inventory of aging chemical weapons. The FY 1991 request of \$9.2 million provides funds for initial production of the BIGEYE bomb and for production engineering support.

GATOR (P-1 Line Item No. 201)

	(\$ in Thousands)	
	FY 1990	FY 1991
	<u>\$ 9,662</u>	<u>\$ 9,532</u>

The \$9.7 million in FY 1990 and \$9.5 million in FY 1991 are to procure GATOR CBU-78 500 pound bombs. The GATOR weapon consists of a MK-7 dispenser that contains a mixture of air-scatterable anti-tank and anti-personnel land mines. It is used in support of the Marine Corps amphibious support mission and can be fired from a variety of aircraft.

Miscellaneous Ordnance and Support (P-1 Line Item Nos. 194-197)

	(\$ in Thousands)	
	FY 1990	FY 1991
	<u>\$77,186</u>	<u>\$93,345</u>

Budgeted procurements will include chaff decoy heads for electronic countermeasures impulse cartridges, and other miscellaneous ordnance and support. Funding of \$24.0 million in FY 1990 and \$18.8 million in FY 1991 is for the procurement of impulse cartridges used for ejecting air-launched weapons and other cartridge-actuated devices. Funding of \$4.4 million in FY 1990 and \$4.8 million in FY 1991 is requested for rocket motors and catapults used for ejecting aircrewmen from disabled aircraft. Funding of \$35.5 million in FY 1990 and \$57.4 million in FY 1991 is for procurement of airborne expendable countermeasures including chaff, infrared flares and expendable jammers to meet training and war reserve (mobilization) requirements. Funding of \$6.6 million in FY 1990 and \$5.5 million in FY 1991 is for Jet-Assisted Take Off (JATO) rockets used to launch aircraft and targets and to propel sleds used in testing. The remaining \$6.7 million in FY 1990 and \$6.8 million in FY 1991 are for procurement of Marine Location Markers which are required for location of sonobuoys in anti-submarine operations and for other general applications.

Weapons Range Support Equipment (P-1 Line Item No. 203)

(\$ in Thousands)	
FY 1990	FY 1991
<u>\$52,223</u>	<u>\$52,480</u>

This line provides the resources to implement the Navy Fleet Training Range Instrumentation Five Year Program Plan. Procurements in FY 1990 include the following: (1) \$8.7 million for Aircrew Electronic Warfare Training Range systems at Fallon, NV and Cherry Point, NC; (2) \$3.8 million for the procurement of System Replacement and Modernization equipment; (3) \$14.0 million for the upgrade of the Oceana TACTS range and the procurement of TACTS Display and Debriefing Subsystems for El Centro and Miramar sites; (4) \$5.6 million for the upgrade of the ASW underwater range in Southern California (SOCAL); and (5) \$10.0 million for the upgrade of the Atlantic Fleet Weapons Training Facility (AFWTF) Naval Tactical Data Systems (NTDS). In addition, \$10.1 million is required for production engineering and ILS efforts. Procurements in FY 1991 include: (1) \$6.6 million for Range Electronic Warfare Simulator systems for AFWTF; (2) \$10.3 million for Aircrew Electronic Warfare Training Range systems at Fallon, NV and Cherry Point, NC; (3) \$3.8 million planned for System Replacement and Modernization equipment; (4) \$7.3 million for TACTS systems for Beaufort, Cecil Field, and Oceana; (5) \$12.0 million for the upgrade of the Pacific Missile Range Facility (PMRF) NTDS; and (6) \$1.9 million for the upgrade of the AFWTF Twelve Target Tracking System. In addition, \$10.5 million is required for production engineering and ILS efforts.

Aircraft Launching and Recovery Equipment (P-1 Line Item Nos. 204, 206)

	(\$ in thousands)	
	FY 1990	FY 1991
	\$41,173	\$41,976

Catapult, Arresting Gear, and Visual Landing Aids Support for the Navy's aircraft carriers and other air-capable ships, and the Marine Corps' Expenditory Airfield (EAF) systems are funded under this program. Funding of \$36.7 million in FY 1990 and \$37.1 million in FY 1991 is for the procurement of major catapult, arresting gear and visual landing aids equipment for aircraft carriers and other aircraft capable ships. Funding of \$4.5 million in FY 1990 and \$4.8 million in FY 1991 are for EAF support equipment to enhance maintainability, reliability and safety of flight operations, and to keep pace with advanced aircraft requirements by correcting known deficiencies and by modernizing EAF equipment.

Aircraft Rearming Equipment (P-1 Line Item No. 205)

	(\$ in thousands)	
	FY 1990	FY 1991
	\$15,552	\$10,442

The Aircraft Rearming Equipment program provides armament support equipment (ASE) and weapons support equipment (WSE) for use ashore and afloat to load and/or download air-launched weapons and to perform maintenance on aircraft-installed armament systems. WSE equipment is used to transport and perform maintenance on weapons and explosive ordnance components. ASE and WSE are utilized to accomplish the improved rearming rate (IRR) of A-6, EA-6, A-7, F-4, F-14, F-18, and AV-8 aircraft. The use of this equipment permits the rapid weapons loading and reloading of strike aircraft with a minimum number of flight deck personnel.

Airborne Mine Countermeasures Equipment (P-1 Line Item No. 210)

(\$ in Thousands)	
FY 1990	FY 1991
<u>\$24,996</u>	<u>\$24,679</u>

This program funds various mine countermeasures equipment operated by RH/CH-53D/MH-53E helicopters. The funding requested in FY 1990 will procure eight AN/ALQ-141 countermeasures sets (\$9.2 million), six sets of airborne mine countermeasures (AMCM) tow provision kits that provide aircraft with the capability to tow the AMCM systems (\$5.3 million), miscellaneous detachment support equipment (\$8.9 million) for use by Naval and Naval Reserve forces, and hardware modifications (\$1.6 million). Funds requested in FY 1991 will procure the new AN/ALQ-166 countermeasures set that provides an improved, reliable, and safe method of detonating magnetic influence mines (\$14.4 million), 25 A/N 37U-1 mechanical minesweeping systems that augment the MK-103 MOD 2 wire sweep system (\$8.3 million), and hardware modifications (\$2.0 million).

LAMPS MK III Shipboard Equipment (P-1 Line Item No. 211)

(\$ in Thousands)	
FY 1990	FY 1991
<u>\$14,568</u>	<u>\$6,288</u>

Equipment to be installed in existing ships being backfitted with the LAMPS MK III weapon system is procured in this line item. \$1.2 million in FY 1990 and \$4.3 million in FY 1991 are requested to procure two and four AN/SRQ-4 units, respectively, shipboard terminal data transmission devices. Other requirements include system integration efforts (\$4.9 million in FY 1990 and \$.2 million in FY 1991), peculiar ground support equipment \$4.6 million in FY 1990 and \$.3 million in FY 1991) and various production engineering and integration logistics support items (\$3.0 million in FY 1990 and \$1.5 million in FY 1991).

Other Aviation Support (P-1 Line Item No. 207, 209, 212-214)

	(\$ in Thousands)	
	FY 1990	FY 1991
	<u>\$38,647</u>	<u>\$51,111</u>

Funds budgeted include the procurement of Meteorological equipment, Stock Surveillance equipment and Other Aviation Support equipment. Reconnaissance equipment, Stock Surveillance equipment and Other Aviation Support equipment. Meteorological equipment to be procured in both FY 1990 and FY 1991 provides a cost effective means to receive/process/disseminate meteorological data/oceanographical data and onsite, real time geographical capability to determine environmental factors currently affecting fleet and shore activities. Specifically, this equipment includes the AN/SMQ-11 Meteorological Data Satellite Receiver-Recorder and the Tactical Environmental Support System (TESS) /Shipboard Meteorological Oceanographic Observing Systems and the shorebased TESS (\$20.0 million in FY 1990; \$35.9 million in FY 1991). The Survival equipment program finances procurement of the PRC-112 Aircrew Survival Radio (\$3.2 million in FY 1990 and \$3.7 million in FY 1991) and the PRC-125 Swimmers Radio (\$.3 million in FY 1990 and \$.3 million in FY 1991). The Survival equipment program also includes funds for support equipment, integrated logistics support and production support (\$3.0 million in FY 1990 and \$2.1 million in FY 1991). \$1.9 million in FY 1990 and \$2.0 million in FY 1991 are requested to buy equipment in support of the Reconnaissance Electronic Warfare, Special Operations and Naval Intelligence (REWSON) program. Procurement includes: (1) readout equipment for ship and shore reconnaissance squadrons, (2) surface and subsurface photo collection equipment, (3) analytical equipment to support these collectors and (4) equipment of a photographic and analytic nature for use by ship combatants. The Stock Surveillance equipment line provides funds for procurement of equipment needed to monitor, measure, and assess the condition of current Navy stocks of air-launched missiles and air-launched ordnance and ammunition (\$2.4 million in FY 1990 and \$1.3 million in FY 1991). Eighty percent of the funds support missile inventory quality evaluation (surveillance) efforts and twenty percent support air-launched ordnance evaluation, including bombs, rockets, and cartridge actuated devices. Material readiness factors such as reliability and

serviceability are measures by this effort. The Other Aviation Support Equipment line funds miscellaneous programs. Included are funds for procurement of fleet telemetry equipment which is used to receive, record and analyze missile telemetry performance data providing information to evaluate training/test exercises (\$1.0 million in FY 1990 and \$1.0 million in FY 1991). Also included are \$1.5 million in FY 1990 and \$1.2 million in FY 1991 for collateral equipment in support of the Naval Air Systems Command and its field activities. The Other Aviation Support Equipment line also funds procurement of a computerized Tactical Aircraft Mission Planning system (TAMPS) (\$4.5 million in FY 1990 and \$3.0 million in FY 1991). Installations are planned for aviation-capable ships, air stations, aviation training, support facilities and deployed aviation units. Finally, \$.3 million is budgeted in each fiscal year for capital maintenance of the government-owned, contractor-operated Sonobuoy test facility at St. Croix, U.S. Virgin Islands.

BUDGET ACTIVITY 4: ORDNANCE SUPPORT EQUIPMENT
 SUMMARY OF BUDGET PLAN
 (\$ In Thousands)

BUDGET PLAN
 (Amounts for Procurement Actions Programmed)

	<u>FY 1988 ACTUAL</u>	<u>FY 1989 ESTIMATE</u>	<u>FY 1990 ESTIMATE</u>	<u>FY 1991 ESTIMATE</u>	JUSTIFICATION PAGE
SHIP GUN AMMUNITION	\$128,254	\$111,342	\$131,391	\$152,744	57
SHIP GUN SYSTEMS EQUIPMENT	12,888	6,661	9,175	17,154	58
SHIP MISSILE SYSTEMS EQUIPMENT	288,622	308,274	315,126	275,056	58
FBM SUPPORT EQUIPMENT	53,490	358,539	60,764	189,003	60
ASW SUPPORT EQUIPMENT	147,688	146,382	73,177	83,242	60
OTHER ORDNANCE SUPPORT EQUIPMENT	41,694	29,931	31,655	31,162	61
OTHER EXPENDABLE ORDNANCE	116,175	125,352	131,158	154,081	61
TOTAL BUDGET PLAN	\$788,811	\$1,086,481	\$752,446	\$902,442	

BUDGET ACTIVITY 4: ORDNANCE SUPPORT EQUIPMENT

	(<i>\$ In Thousands</i>)
FY 1991 Estimate	\$ 902,442
FY 1990 Estimate	\$ 752,446
FY 1989 Estimate	\$1,086,481
FY 1988 Actual	\$ 788,811

Purpose and Scope of Work

Funds provided in this budget activity are for Ship Gun Ammunition, Ship Gun and Ship Missile Systems equipment, Fleet Ballistic Missile and Anti-Submarine Warfare Support equipment, Other Ordnance Support equipment, and Other Expendable Ordnance.

Justification of Funds

Ship Gun Ammunition (Includes P-1 Line Items 215-221)

	(<i>\$ In Thousands</i>)
FY 1990	<u><i>\$131,391</i></u>
	<u><i>FY 1991</i></u>
	<u><i>\$152,744</i></u>

The FY 1990 request of \$131.4 million and FY 1991 request of \$152.7 million for Ship Gun Ammunition are for procurement of Three-inch and Five-inch ammunition, 20mm ammunition for the Close-In Weapon System (CIWS), 76mm ammunition, Sixteen-inch ammunition, and Other Ship Gun ammunition. The primary mission for the 76mm ammunition is for use against air targets but it is also used against surface and shore targets. The Sixteen-inch ammunition is for use by battleships against surface and shore target. The Five-inch ammunition is the most common and is used by nearly all of the Navy's combatant ships.

Ship Gun System Equipment (Includes P-1 Line Item 222)

(\$ In Thousands)		
FY 1990	FY 1989	
<u>\$ 9,175</u>	<u>\$17,154</u>	

The FY 1990 request of \$9.2 million and the FY 1991 request for \$17.2 million are to procure Gun Fire Control equipment. The funds requested for Gun Fire Control equipment are for the procurement of equipment and ordnance alterations to improve reliability and maintainability of the MK-86 and MK-68/56 surface Gun Fire Control Systems installed on all surface combatants fitted with 5" naval guns.

Ship Missile Systems Equipment (Includes P-1 Line Items 223-232)

(\$ In Thousands)		
FY 1990	FY 1991	
<u>\$315,126</u>	<u>\$275,056</u>	

The FY 1990 request of \$315.1 million and the FY 1991 request of \$275.1 million are for Ship Missile Systems (SMS) programs. The MK-92 Fire Control System request of \$15.8 million in FY 1990 and \$21.3 million in FY 1991 will provide for improved readiness of the MK-92 system. The FY 1990 and FY 1991 request of \$31.2 million and \$14.0 million respectively for Harpoon Support equipment will be used to procure Ordnance Alterations. The TERRIER Support equipment request of \$25.8 million in FY 1990 and \$15.7 million in FY 1991 will provide for modification to the TERRIER Missile Weapon Systems including Fire Control System MK-76, Guided Missile Launching System MK-10, and Ancillary support equipment. These modifications provide for CG/SM-2 performance improvements (Standard Missile (Extended Range) Block I missile capability), New Threat Upgrade performance improvements (Standard Missile 2 (Extended Range) Block II missile capability) and associated reliability/maintainability improvements in CG-16/26/N9/N25/N35 Class ships.

The requests in FY 1990 and FY 1991 of \$17.8 million and \$20.4 million, respectively, for the TARTAR Support equipment program are for improvements to the electronic counter-counter measures capability of the MK-74 fire control system, AN/SYR-1 communications set, and computer programs to fully exploit system target sorting capabilities. The Point Defense Support equipment request of \$40.8 million in FY 1990 and \$50.9 million in FY 1991 will provide air defense of selected ships by upgrading the NATO SEASPARROW Surface Missile System including modifications to incorporate specific improvements to increase reliability. The request also includes procurement of the launch system to fire the RAM Missile. The \$1.0 million requested in FY 1990 and \$1.0 million requested in FY 1991 for Airborne ECM/ECCM will provide for equipment used to simulate projected enemy jamming tactics and techniques during Surface Warfare Systems evaluations and Fleet exercises. The AEGIS Support equipment request of \$44.0 million in FY 1990 and \$53.9 million in FY 1991 will provide shore based assets for the AEGIS Combat System/Educational Center to support the Battle readiness of AEGIS Cruisers including AEGIS Combat System Center equipment and AEGIS Educational Center equipment. Also included is procurement of special tooling and test equipment, ordnance alterations, mobile industrial support equipment, part task trainers, and ship alteration equipment for the Warfighting Improvement Program. The Surface TOMAHAWK Support equipment request of \$42.1 million in FY 1990 and \$23.1 million in FY 1991 will procure Common Weapons Control Systems (CWCS), and alteration/modification kits for surface ships missile launching systems. The FY 1990 request of \$6.2 million and the FY 1991 request of \$5.5 million for the Submarine TOMAHAWK Support equipment program will procure ordnance alterations for the Submarine Combat System; training equipment; and certification equipment. The Vertical Launch Systems request of \$90.5 million in FY 1990 and \$69.1 million in FY 1991 will provide for installation of five VLS systems on DD 963, DDG-51, and CG 47 class ships.

Strategic Platform Support Equipment (Includes P-1 Line Items 233-234)

	(\$ In Thousands)
FY 1990	FY 1991
<u>$\\$60,764$</u>	<u>$\\$189,003$</u>

The FY 1990 request of \$60.8 million and the FY 1991 request of \$189.0 million for Strategic Platform Support equipment provides funding for ordnance support, ship alterations and test equipment for the TRIDENT submarine and TRIDENT Refit Facility (TRIREFFAC) located at Naval Submarine Base (NSB), Bangor, Washington and numerous support facilities. A significant modernization program is the Combat Control System MK2 (CCS MK2) which provides the ADCAP torpedo capability plus display and simulator improvements which will provide important operability enhancements in SSBN platforms. In addition, funds are requested for the procurement of Strategic Weapon System (SWS) equipment for deployed SSBNs and shore support sites to support the POSEIDON (C-3), TRIDENT I (C-3), TRIDENT I (C-4) and TRIDENT II (D-5) programs and procurement of Strategic Weapons System equipment and ship system ordnance equipment needed to establish the Navy Submarine Base, Kings Bay Georgia.

ASW Support Equipment (Includes P-1 Line Items 235-239)

	(\$ In Thousands)
FY 1990	FY 1991
<u>$\\$73,177$</u>	<u>$\\$83,242$</u>

The FY 1990 request of \$73.2 million and FY 1991 request of \$83.2 million for Anti-Submarine Warfare Support equipment procurement includes funding for the All Digital Attack Center (ADAC), which includes FCS MK-117 increased Display and Conversion for Over the Horizon targeting, Advanced Capability (ADCAP) Torpedo, and FCS MK-117/CCS MK-1/MK-2 Improvements. The Combat Control System Obsolete Equipment Replacement (CCS OER) program helps to standardize hardware and software, ensuring commonality with the AN/BSY-1 and Trident SSBN's. Replacing obsolete components with modernized versions will result improved reliability, maintainability and operability. In addition, FY 1990 and FY 1991 funding will support procurement of various upgrades to submarines and surface torpedo tube equipment, Anti-Submarine Rocket (ASROC) launchers, and various test equipments. These funds will also provide for the procurement of Anti-Submarine Warfare torpedo exercise and shore support equipment, range equipment for Fleet Operational Readiness Accuracy Check Sites (FORACS) and Sensor Accuracy Check Sites (SACS), and test equipment to support Weapon System Accuracy Trials (WSAT).

Other Ordnance Support Equipment (Includes P-1 Line Items 240-246)

	(\$ In Thousands)	
	FY 1990	FY 1991
	\$31,655	<u>\$31,162</u>

The FY 1990 request of \$31.7 million and the FY 1991 request of \$31.2 million for Other Ordnance Support equipment are for various ordnance programs not budgeted under other programs within this budget activity. Some of the major programs include: Explosive Ordnance Disposal equipment, Unmanned Seaborne Targets, and Stock Surveillance equipment. The request in both FY 1990 and FY 1991 for Explosive Ordnance Disposal equipment provides for procurement of necessary EOD tools and equipment required for initial outfitting of EOD units. These equipments provide ordnance location and safe disposal of unexploded ordnance. The request for Unmanned Seaborne Targets provides Surface Seaborne Targets for Fleet Training, with procurement of Septar Targets and Floating Automatic Scoring Target (FAST) hulls in FY 1990 and continuing in FY 1991. The request in FY 1990 and FY 1991 for Stock Surveillance equipment provides resources for determining safety, reliability, readiness, and service/shelf life of both stored and deployed Navy and Marine Corps tactical weapons and weapon systems and the causes for degradations. Other programs included in the FY 1990 and FY 1991 request are Swimmer Weapons Systems for Special Operation Forces, Anti-Ship Missile Decoy System, Calibration equipment, and Other Ordnance Training equipment.

Other Expendable Ordnance (Includes P-1 Line Items 247-255)

	(\$ In Thousands)	
	FY 1990	FY 1991
	\$131,158	<u>\$154,081</u>

The FY 1990 request of \$131.2 million and the FY 1991 request of \$154.1 million is for procurement of other expendable ordnance. The Small Arms and Landing Party Ammo request in FY 1990 and FY 1991 provides ammunition in support of active naval vessels, and for active and reserve special warfare forces including replacement of Non-Combat Expenditure Requirements (NCER), initial allowance for all approved active and reserve forces, and a combat reserve and/or material pipeline of ammunition quantities based on a "Days of Support" analysis.

The FY 1990 and FY 1991 request for Pyrotechnics and Demolition Material provides pyrotechnics and demolition materials for all active naval vessels, amphibious and mobile construction battalions, harbor clearance units, cargo handling and port groups, and naval security groups and special operations forces. Also included is \$20.1 in FY 1990 and \$17.1 FY 1991 for Naval Special Operations Forces. The QUICKSTRIKE request in FY 1990 and FY 1991 provides for the procurement of the 2000 lb MK-65 service and non-service mines to include the MK-58 Target Detecting Devices (TDDs) and associated safety and arming devices. The request for Fleet Mine Support Equipment in FY 1990 and FY 1991 provides for the procurement of material and production support services for the assembly of mines in stockpile. The request also provides for support of fleet proficiency training, mine warfare and mine countermeasures training, and improved stockpile mine performance. The Shipboard Expendable Countermeasures program provides for Anti-Ship Missile Decoys deployed from the MK-36 Decoy Launching System. The FY 1990 and FY 1991 request provides for SEA GNAT RF Decoys and MK-186-IR Decoys.

BUDGET ACTIVITY 5: CIVIL ENGINEERING SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
(\$ In Thousands)

	Budget Plan (Amount for Procurement Actions Programmed)					Justification Page
	<u>FY 1988 Actual</u>	<u>FY 1989 Estimate</u>	<u>FY 1990 Estimate</u>	<u>FY 1991 Estimate</u>		
Passenger Carrying Vehicles	\$5,079	\$5,520	\$7,020	\$6,892		64
Trucks, Trailers, Construction and Maintenance Equipment	52,064	47,306	58,964	60,851		65
Amphibious Equipment and Combat Construction Support Equipment	14,149	39,478	12,747	12,838		65
Other Equipment	23,923	15,821	18,361	16,969		66
Total Budget Plan	\$95,215	\$108,125	\$97,092	\$97,550		

BUDGET ACTIVITY 5: CIVIL ENGINEERING SUPPORT EQUIPMENT

	(\$ in Thousands)
FY 1991 Estimate -	\$ 97,550
FY 1990 Estimate -	\$ 97,092
FY 1989 Estimate -	\$108,125
FY 1988 Actual -	\$ 95,215

Purpose and Scope of Work

Funds provided under this budget activity are for the procurement of passenger carrying vehicles, trucks and trailers, construction, earthmoving, maintenance, fire fighting, weight handling, amphibious and specialized equipment, combat construction support equipment, mobile utilities support equipment, fleet moorings, collateral equipment for the initial outfitting of Military Construction Projects, pollution control equipment, and equipment used for construction of underwater facilities. This equipment is procured for Navy-wide use by the Operating Forces and Shore Establishment including passenger carrying vehicles for Industrial Fund activities.

Justification of Funds

Passenger Carrying Vehicles - (P-1 Line Item 256 & 257)

	(\$ in Thousands)
FY 1990	\$ 7,020
FY 1991	\$ 6,892

This category provides for replacement and limited augment of buses, sedans, station wagons and armored sedans for all Navy activities. Included are replacement vehicles for Navy Industrial Fund (NIF) activities in compliance with the 97th Congress House of Representatives Conference Report No. 97-80. The FY 1990 program provides for the replacement of 478 vehicles leaving 1,512 in the inventory which exceed economic replacement criteria. The FY 1991 program provides for the replacement of 458 vehicles leaving an additional 1,901 in the inventory which exceed economic replacement criteria. This category does not include ambulances, which are addressed below.

Trucks, Trailers, Construction and Maintenance Equipment - (P-1 Line Items 258 - 269)

(\$ in Thousands)	
FY 1990	FY 1991
\$58,964	\$60,851

This category includes trucks, trailers, generators, crushing, drilling, earth moving, fire fighting and weight handling equipment and ambulances for the protection and maintenance of Naval Shore Activities, Naval Construction Forces, and various other Operational Forces worldwide. Funding is included for the initial outfitting of the Advanced Base Functional Component (ABFC) the Operations Plan is \$1.4 million in FY 1990 and \$2.4 million in FY 1991, the Reserve Naval Construction Force (RNCF) \$.6 million in FY 1990 and \$1.8 million in FY 1991, and the Assault Follow-on Echelon (AFOE) \$.7 million in FY 1990 and \$.5 million in FY 1991.

Amphibious Equipment (P-1 Line Item 270) and Combat Construction Support Equipment (P-1 Line Item 271)

(\$ in thousands)	
FY 1990	FY 1991
\$12,747	\$12,838

These funds provide specialized amphibious equipment which significantly enhances the Navy's capability to support Marine Corps amphibious operations through the ship-to-shore transfer of both dry and liquid cargo and as a key part of the Strategic Sealift Program. This equipment will be used by the Amphibious Construction Battalions in the Assault Echelon and the Assault Follow-on Echelon phases of amphibious operations to provide essential logistic support in advanced areas having little or no port capability. The amphibious dry cargo transfer equipment in the FY 1990 program includes non-powered causeway sections and other miscellaneous specialized amphibious equipment. Combat Construction Support Equipment consists primarily of relocatable facilities such as storage magazines, fuel storage tanks, multipurpose shelters and containers, and panel buildings in support of Naval Construction Force personnel. The FY 1990 and FY 1991 programs include the outfitting of Naval Mobile Construction Battalions with containers for prepacking Table of Allowance items and provide shelters for the protection of personnel against chemical agents at overseas Naval Base.

Other Equipment - (P-1 Line Items 272 - 277)

(\$ in Thousands)

	FY 1990	FY 1991
	<u>\$18,361</u>	<u>\$16,969</u>

Other programs in Budget Activity 5 include Mobile Utilities Support Equipment which provides electric power and high quality steam for support to the fleet while in port, and for emergency shore operations, serious utility system deficiencies and delayed military construction. Collateral equipment provides equipment and furnishings to initially outfit Military Construction projects. Ocean Facilities Construction Equipment is associated with strategic deterrence, anti-submarine warfare and other fleet underwater construction programs. Fleet Moorings procures the components for overhauling fleet moorings worldwide. Pollution control equipment is for compliance with Clean Air Act and Clean Water Act Amendments, various Environmental Protection Agency Regulations and State Implementation Plans. Also included is Other Civil Engineering Support Equipment for Administrative and Public Works Shop Equipment.

BUDGET ACTIVITY 6: SUPPLY SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
 (\$ In Thousands)

Budget Plan
 (Amounts for Procurement Actions Programmed)

	<u>FY 1988 ACTUAL</u>	<u>FY 1989 ESTIMATE</u>	<u>FY 1990 ESTIMATE</u>	<u>FY 1991 ESTIMATE</u>	<u>JUSTIFICATION PAGE</u>
Material Handling Equipment and Systems	\$23,265	\$15,729	\$21,458	\$26,682	68
Other Supply Support Equipment	11,783	4,734	3,500	3,434	69
Classified Programs	72,146	83,037	138,340	411,456	69
Total Budget Plan	\$107,194	\$103,500	\$163,298	\$441,572	

BUDGET ACTIVITY 6: SUPPLY SUPPORT EQUIPMENT

	(\$ In Thousands)		
FY 1991 Estimate	\$441,572		
FY 1990 Estimate	\$163,298		
FY 1989 Estimate	\$103,500		
FY 1988 Actual	\$107,194		

Purpose and Scope of Work

This budget activity finances the procurement of forklift trucks and other materials handling equipment used at Navy installations and aboard ships; automated materials handling systems; investment type support equipment; and reprographics equipment. In addition, financing for certain classified projects is included in this activity.

Justification of Funds

Materials Handling Equipment and Systems (P-1 Line Items Nos. 278-280)

	(\$ In Thousands)		
FY 1990	\$21,458		
FY 1991	\$26,682		

These funds are requested to procure forklift trucks in FY 1990 and FY 1991 which are needed for the cyclical replacement of overage equipments aboard ships and at shore activities which are more costly to maintain than to replace.

For Other Materials Handling equipment, the FY 1990 and FY 1991 requests represent a phased equipment replacement program designed to reduce the significant level of overage warehouse tractors, cranes and other equipment in the inventory.

The requested funds for the Automated Materials Handling system (AMHS) will provide for the installation of four Navy Integrated Storage Tracking and Retrieval Systems (NISTARS) in FY 1990 and FY 1991. NISTARS automates certain warehouse functions and places the entire warehouse operation under positive management control and automation. It improves the efficiency of labor and materials, as well as improves inventory accuracy. The first three sites were procured with an acquisition strategy which required one contractor to provide software, computer control, and all AMHS. A new acquisition strategy has been developed to breakout stand-alone AMHS as government furnished equipment in the competitive contract for these NISTARS sites.

Other Supply Support Equipment (P-1 Line Items Nos. 281-282)

(\$ in thousands)

<u>FY 1990</u>	<u>FY 1991</u>
<u>\$3,500</u>	<u>\$3,434</u>

The request for Other Supply Support equipment includes the procurement of shop and office equipment, reprographics, uninterrupted power service units, enlisted dining facilities equipment, office automation, and pollution control projects.

Classified Programs (P-1 Line Items No. 283)

(\$ In thousands)

<u>FY 1990</u>	<u>FY 1991</u>
<u>\$138,340</u>	<u>\$411,456</u>

Details of this program are of a higher classification. Justification is provided separately.

BUDGET ACTIVITY 7: PERSONNEL AND COMMAND SUPPORT EQUIPMENT
SUMMARY OF BUDGET PLAN
(\$ In Thousands)

Budget Plan
(Amounts for Procurement Actions Programmed)

	<u>FY 1988 ACTUAL</u>	<u>FY 1989 ESTIMATE</u>	<u>FY 1990 ESTIMATE</u>	<u>FY 1991 ESTIMATE</u>	<u>JUSTIFICATION PAGE</u>
Training Equipment	\$59,237	\$87,729	\$54,445	\$109,802	71
Command Support Equipment	168,571	169,229	215,357	212,460	72
Computer Acquisition Equip	173,918	137,620	142,802	134,294	73
Productivity Programs	8,160	11,596	32,567	22,160	73
Total Budget Plan	\$409,886	\$406,174	\$445,171	\$478,716	

BUDGET ACTIVITY 7: PERSONNEL AND COMMAND SUPPORT EQUIPMENT

	(\$ In Thousands)		
FY 1991 Estimate	-	\$478,716	
FY 1990 Estimate	-	\$445,171	
FY 1989 Estimate	-	\$406,174	
FY 1988 Actual	-	\$409,886	

Purpose and Scope of Work

This budget activity finances the procurement of Training Equipment, Command Support Equipment, Computer Equipment and Productivity Investment Programs.

Justification of Funds

Training Equipment (P-1 Line Items 284-290)

	(\$ In Thousands)		
FY 1990	-	FY 1991	
\$54,445		\$109,802	

Surface training devices will provide maintenance, operator, team, and refresher training for new combat systems/capabilities being introduced into the fleet. Requested funding supports a variety of cost effective devices including Surface Sonar Trainers, Ship System Trainers and Surface Combat System Trainers (FY 1990, \$32.3 million; FY 1991, \$58.6 million).

Funding is required to procure Training Support Equipment (TSE) consisting of minor training aids and devices to support the education and training programs which supply the fleet with effectively trained personnel (FY 1990, \$2.7 million; FY 1991, \$3.7 million).

Training Device Modifications provide cost-effective enhancements to update the existing inventory of training devices. The modifications help maintain the training value of devices and keep them compatible with equivalent changes made to the fleet operational equipments which these devices simulate (FY 1990, \$19.4 million; FY 1991, \$47.5 million).

Command Support Equipment (P-1 Line Items 291-299)

(\$ In Thousands)

FY 1990	FY 1991
\$215,357	\$212,460

This funding provides for the procurement of items which have a unit cost over \$15 thousand including Command Support, Intelligence Support, Education Support, Medical Support, Operating Forces Equipment, Naval Reserve Support, Oceanographic Support, Physical Security Support, and Centrally Managed equipment with a unit cost less than \$15 thousand.

This request includes acquisition of equipment needed for the Naval Intelligence Command and its field activities. It is a part of the General Defense Intelligence Program (GDIP) requirements. Details on this classified program are contained in the Intelligence Justification Books, provided separately.

Funding is also requested to procure Medical Support equipment to be located in the United States and for prepositioned Fleet Hospitals. Funds requested to replace existing worn-out, obsolete assets located in the United States will provide for the acquisition of new technological developments for a modern health care delivery system. Funds requested for Fleet Hospitals will procure shelters, transportation equipment medical equipment, and other hospital support equipment to provide medical care for Navy and Marine Corps personnel during wartime. Funding requested in FY 1990 and FY 1991 will provide for one 1,000 bed communication zone hospital in each year.

Funds are requested to procure Oceanographic equipment required to collect, analyze, and disseminate environmental data. This data is critical for precise positioning, navigation, and targeting of enemy air, surface, and sub-surface weapon systems.

Funds are requested in FY 1990 and FY 1991 to continue procuring security systems to protect nuclear weapons afloat and ashore. It continues to provide for increased security of arms, ammunition and explosives, acceleration of the installation of intrusion detection systems at nuclear storage sites, and the SWFLANT, Kings Bay effort. Initial operational capability for Waterside Security Systems at strategic SUBASES commenced in FY 1991 and Magazine Security Systems for nuclear capable ships will be in FY 1990. Physical security systems support to WHMO begins in FY 1990.

Funds are requested for acquisition of equipment to support Chief of Naval Operations field activities, Naval Military Personnel Command, Naval Telecommunications Command, Office of the Secretary of the Navy, Naval Reserves, Naval Academy, Naval Postgraduate School, Naval War College, and Headquarters of Pacific, Atlantic, and Europe Fleet Commands.

Computer Acquisition Program (P-1 Line Item 300)

(\$ In Thousands)

FY 1990	FY 1991
\$142,802	\$134,294

The Computer Acquisition Program (CAP) was established to optimize the procurement of general purpose Automated Data Processing Equipment (ADPE) Navy-Wide. The procurement of ADPE through the CAP represents the culmination of several planned and developed ADP systems that are ready for deployment and introduction throughout the Fleet. The work load that is performed directly supports such day-to-day efforts as fleet supply and logistics, maintenance, financial and personnel management, and health management, all of which are currently either performed manually or in part by using old, obsolete, unreliable data processing support. The automation and upgrade capability to be funded by the CAP would lighten Fleet work load and modernize ADP, directly improving overall Fleet readiness.

Productivity Programs (P-1 Line Items 301-302)

(\$ In Thousands)

FY 1990	FY 1991
\$32,567	\$22,160

Funds requested for the Productivity Investment Fund and Productivity Enhancing Incentive Fund are used to purchase improved general purpose equipment, tools and procedures. The objective of productivity investments is to apply capital investment in exchange for labor intensive and costly operations in government by investments in modern equipment, methods and labor saving devices. It also realizes a continuing stream of benefits through the reduction of recurring operating costs. Projects involve the replacement of old and outmoded equipment and procedures to reduce inefficiency and maintenance costs. This frequently implants new technology as well as enabling growth in efficiency and the solution of emerging problems in operations and logistics. The technology factor has been credited with at least 40 percent of all productivity growth over the past five decades of domestic experience. Productivity investments directly address the unfunded backlog of compelling investment opportunities existing in the Navy.

BUDGET ACTIVITY 8: SPARES AND REPAIR PARTS
SUMMARY OF BUDGET PLAN
(In Thousands)

Budget Plan
(Amounts for Procurement Actions Programmed)

	<u>FY 1988 Actual</u>	<u>FY 1989 Estimate</u>	<u>FY 1990 Estimate</u>	<u>FY 1991 Estimate</u>	<u>Justification Page</u>
Spares and Repair Parts					
Initial	243,797	148,625	207,327	225,999	75
Replenishment	14,261	16,691	17,931	19,019	75
Outfitting	-	357,162	322,147	323,948	75
Total Budget Plan	258,058	522,478	547,405	568,966	

BUDGET ACTIVITY 8: SPARES AND REPAIR PARTS (P-1 LINE ITEMS)

	(\$ in Thousands)
FY 1991 Estimate	- \$568,966
FY 1990 Estimate	- \$547,405
FY 1989 Estimate	- \$522,478
FY 1988 Actual	- \$258,058

Purpose and Scope of Work

Budget Activity 8 provides for all Other Procurement, Navy (OPN) spares. The funding requested provides for the procurement of spares and repair parts for all equipments requiring support by the Systems Commands prior to transitioning into the Navy Supply system material and is divided between Initial spares (\$207.3 million in FY 1990 and \$226.0 million in FY 1991), Replenishment spares (\$17.9 million in FY 1990 and \$19.0 in FY 1991), and outfitting spares (\$322.1 million in FY 1990 and \$324.0 million in FY 1991). The FY 1990 program of \$547.4 million includes the procurement of \$131.2 million of ships initial spares, \$49.3 million of communications and electronics initial spares, \$15.0 million of aviation initial spares, \$10.6 million of ordnance initial spares, \$1.4 million of civil engineering initial spares, \$4.9 million of aviation replenishment spares, \$13.0 million of ordnance replenishment spares and \$322.1 of ship outfitting spares. The FY 1991 program of \$569.0 million includes the procurement of \$136.0 million of ships initial spares, \$60.0 million of communication electronics initial spares, \$12.6 million aviation initial spares, \$15.9 million of ordnance initial spares \$1.4 million of civil engineering initial spares, \$5.9 million of aviation replenishment spares, \$13.1 million of ordnance replenishment spares and \$323.9 of ship outfitting spares.

Comparison of FY 1989 Program Requirements as Reflected
 In Amended FY 1988/1989 Biennial Budget With FY 1989 Program Requirements as
 Shown in FY 1990/1991 Biennial Budget

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program Requirements Per Amended FY 1988/1989 Biennial Budget	Program Requirements Per FY 1990/1991 Biennial Budget	Increase (+) or Decrease (-)
1. Ships Support Equipment	663,240	620,995	-42,245
2. Communications & Electronics Equipment	1,575,264	1,397,494	-177,770
3. Aviation Support Equipment	469,250	490,844	+21,594
4. Ordnance Support Equipment	1,170,571	1,086,481	-84,090
5. Civil Engineering Support Equipment	104,475	108,125	+3,650
6. Supply Support Equipment	105,295	103,500	-1,795
7. Personnel & Command Support Equipment	474,409	406,174	-68,235
8. Spares & Repair Parts Reimbursable Program	227,196	522,478	+295,282
	65,000	65,000	0
Total Fiscal Year Program	4,854,700	4,801,091	-53,609

EXPLANATION BY BUDGET ACTIVITY

1. Ships Support Equipment (\$-42.2 million)

The decrease of \$42.2 million resulted from the following: Specific Congressional reductions to Other Propulsion Equipment (\$1.4 million), Other Pumps (\$2.5 million), Electrically Suspended Gyro Navigator (\$6.8 million), Firefighting Equipment (\$0.6 million), Submarine Batteries (\$0.9 million), Strategic Platform Support Equipment (\$6.5 million), HM&E Items Under \$2 Million (\$0.4 million), and Diving and Salvage Equipment (\$1.2 million); other reductions included \$0.6 million for P.L. 100-463, a reduction for inflated cost estimates (\$3.8 million), reduction for revised ship overhauls (\$24.6), reduction for revised inflation rates (\$2.5 million), and a proposed appropriation transfer of \$35.8 million to offset O&MN shortfalls. Additionally, \$0.4 million represents increases for below threshold reprogrammings. Increases include specific Congressional increases of \$20.0 million for Sealift Support Equipment and \$25.0 million for Special Operations Forces (SOF) Equipment.

2. Communications and Electronic Equipment (\$-177.8 million)

The decrease of \$177.8 million resulted from: Reduction for inflated cost estimates (\$15.2 million), a reduction of \$4.1 million in consonance with P.L. 100-463, reduction for revised ship overhauls (\$101.3), reduction for revised inflation rates (\$5.7 million), and a proposed appropriation transfer of \$92.9 million to offset O&MN shortfalls and to fund RDT&EN programs. Additionally, \$10.5 million represents increases for below threshold reprogrammings. Additional adjustments resulted from specific Congressional increases for AN/SQQ-89 Surface ASW Combat System (\$15.0 million), AN/SQR-18 Towed Array Sonar (\$13.9 million), and Large Screen Display (\$2.0 million).

3. Aviation Support Equipment (\$+21.6 million)

The increase of \$21.6 million resulted from: Specific Congressional reductions to 2.75 Inch Rocket (\$9.4 million), JATOS (\$3.1 million), Miscellaneous Air Launched Ordnance (\$1.0 million), Bigeye Chemical Weapon (\$4.9 million), and Other Aviation Support Equipment (\$17.0 million). Additional reductions resulted from revised inflation rates (\$1.9 million), inflated cost estimates (\$1.9 million), a proposed appropriation transfer of \$9.2 million to fund O&MN shortfalls, and below threshold reprogrammings of \$2.0

million. A reduction of \$1.1 million was made for P.L. 100-463. Other adjustments include specific Congressional increases to AN/SSQ-53 Sonobuoy (\$22.5 million), AN/SSQ-57 Sonobuoy (\$7.5 million), General Purpose Bombs (\$25.0 million), Rockeye (\$16.0 million), and Practice Bombs (\$2.1 million).

4. Ordnance Support Equipment (\$-84.1 million)

The decrease of \$84.1 million resulted from: Specific Congressional reductions to 5/54 Gun Ammunition (\$20.4 million) and 16 Inch Gun Ammunition (\$14.8 million). Additional reductions were made for inflated cost estimates (\$8.9 million), revised ship overhauls (\$67.5 million), revised inflation rates (\$4.3 million), proposed appropriation transfers of \$19.2 million to fund emergent RDT&EN programs and to offset OEMN shortfalls, and a reduction of \$1.2 million made for P.L. 100-463. Below threshold reprogrammings of \$2.1 million increased the program. Congress also increased the MK-92 CORT program by \$50.1 million.

5. Civil Engineering Support Equipment (\$+3.7 million)

The increase of \$3.7 million resulted from a specific Congressional reduction to Trucks of \$10.4 million, a reduction for inflated cost estimates of \$11.0 million, revised inflation rates for \$0.4 million, and a proposed appropriation transfer of \$1.5 million to fund OEMN shortfalls. \$2.0 million was added to Pollution Control Equipment from the Environmental Restoration account. Additionally, Congress specified an increase for Amphibious Equipment for \$15.0 million.

6. Supply Support Equipment (\$-1.8 million)

The decrease of \$1.8 million resulted from a Congressional reduction of \$1.0 million for inflated cost estimates and a reduction of \$0.4 million for revised inflation rates. Below threshold reprogrammings account for reductions of \$0.4 million.

7. Personnel and Command Support Equipment (\$-68.2 million)

The decrease of \$68.2 million resulted from specific Congressional reductions to Computer Acquisition Program (\$38.6 million), Intelligence Support Equipment (\$4.7 million), Productivity Investment Fund (\$8.8 million), and Productivity Enhancing Incentive Fund (\$6.8 million). Additional reductions were made for inflated cost estimates (\$4.7 million), revised inflation rates (\$11.6 million), and a proposed appropriation transfer of \$13.1 million to fund OEMN shortfalls. Below threshold reprogrammings reduced programs by \$1.8 million. A specific Congressional increase added \$11.9 million to Ship System Trainers.

8. Spares and Repair Parts (\$+295.3 million)

The increase of \$295.3 million resulted primarily from the Congressional addition of \$360.0 million to support funding of Outfitting Spares in OPN. Other adjustments included a specific Congressional reduction to Spares of \$27.2 million, a reduction for inflated cost estimates of \$2.2 million, a reduction for revised inflation rates of \$2.1 million, a reduction for revised overhaul schedule of \$6.6 million, and a proposed appropriation transfer of \$17.9 million to offset OEMN shortfalls. Below threshold reprogramming reduced the program by \$8.7 million.

9. Reimbursable Program (\$0)

No change.

Comparison of FY 1989 Financing as Reflected
 In Amended FY 1988/1989 Biennial Budget With FY 1989 Financing as
 Shown in FY 1990/1991 Biennial Budget

SUMMARY OF FINANCING (In Thousands of Dollars)

	Financing Per Amended FY 1988/1989 Biennial Budget	Financing Per FY 1990/1991 Biennial Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	4,854,700	4,801,091	-53,609
Program Requirements (Service Account)	4,789,700	4,736,091	-53,609
Program Requirements (Reimbursable)	65,000	65,000	0
Less:			
Anticipated Reimbursements Transferred from Other Accounts	65,000 0	65,000 110,700	0 110,700
Appropriation Transfer to Other Accounts	4,789,700 0	4,813,969 -208,600	24,269 -208,600
Transfer from Other Accounts	0	27,000	27,000
Reduction pursuant to P.L. 100-463	0	-6,978	-6,978
Appropriation (Adjusted)	4,789,700	4,625,391	-164,309

EXPLANATION OF CHANGES IN FINANCING

1. Program Requirements (Total)

The decrease reflects Congressional action to the FY 1988/1989 Amended Budget and proposed inter-appropriation transfers.

2. Program Requirements (Service Account)

The decrease reflects Congressional increases to the FY 1988/1989 Amended Budget of \$159,969, a transfer in from the Environmental Restoration account of \$2,000, a reduction for P.L. 100-463 of \$6,978, and a reduction for proposed inter-appropriation transfers of \$208,600.

3. Program Requirements (Reimbursable)

No change.

4. Anticipated Reimbursements

As above.

5. Transferred from Other Accounts

The increase reflects Congressional action on the FY 1988/1989 Amended Budget for Outfitting Spares.

6. Appropriation

The increase reflects the difference between the requested amount in the FY 1988/1989 Amended Budget and the amount actually appropriated.

7. Transfer to Other Accounts

The decrease reflects proposed inter-appropriation transfers of appropriated funds to finance Operations and Maintenance account (\$167,600), the Enhanced Modular Signal Processor in RDT&E (\$22,000), and a reduction to reflect revised inflation rates (\$19,000).

8. Transfer from Other Accounts

The increase reflects an inter-appropriation transfer of funds appropriated in other accounts for Environmental Restoration which will be executed in OPN (\$2,000) and the Congressional transfer of \$25,000 into OPN for Special Operations Forces Equipment.

9. Reduction Pursuant to P.L. 100-463

The decrease represents the OPN share of the reduction mandated by P.L. 100-463.

10. Appropriation (Adjusted)

As above.

Comparison of FY 1988 Program Requirements as Reflected
 In Amended FY 1988/1989 Biennial Budget With FY 1988 Program Requirements as
 Shown in FY 1990/1991 Biennial Budget

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program Requirements Per Amended FY 1988/1989 Biennial Budget	Program Requirements Per FY 1990/1991 Biennial Budget	Increase (+) or Decrease (-)
1. Ships Support Equipment	769,591	730,167	-39,424
2. Communications & Electronics Equipment	1,645,786	1,518,876	-126,910
3. Aviation Support Equipment	669,704	641,391	-28,313
4. Ordnance Support Equipment	746,237	788,811	+42,574
5. Civil Engineering Support Equipment	95,215	95,215	0
6. Supply Support Equipment	109,194	107,194	-2,000
7. Personnel & Command Support Equipment	416,823	409,886	-6,937
8. Spares & Repair Parts Reimbursable Program	278,800 65,000	258,058 31,499	-20,742 -33,501
Total Fiscal Year Program	4,796,350	4,581,097	-215,253

EXPLANATION BY BUDGET ACTIVITY

1. Ships Support Equipment (\$-39.4 million)

The decrease of \$39.4 million results from Congressional rescissions of prior year available program (\$16.3 million), approved appropriation transfers (\$41.0 million) and an increase for minor below threshold reprogramings (\$17.9 million).

2. Communications and Electronic Equipment (\$-126.9 million)

The decrease of \$126.9 million results from Congressional rescissions of prior year available program (\$36.3 million), approved appropriation transfers (\$89.1 million) and a decrease for minor below threshold reprogramings (\$1.5 million).

3. Aviation Support Equipment (\$-28.3 million)

The decrease of \$28.3 million results from approved appropriation transfers (\$23.2 million) and minor below threshold reprogramings (\$5.1 million).

4. Ordnance Support Equipment (\$+42.6 million)

The increase of \$42.6 million results from Congressional rescissions of prior year available program (\$10.3 million), approved appropriation transfers (\$59.3 million) and a decrease for minor below threshold reprogramings (\$6.4 million).

5. Civil Engineering Support Equipment (\$0)

No change.

6. Supply Support Equipment (\$-2.0 million)

The decrease of \$2.0 million results from an approved appropriation transfer (\$2.0 million).

7. Personnel and Command Support Equipment (\$-6.9 million)

The decrease of \$6.9 million results from an approved appropriation transfer.

8. Spares and Repair Parts (\$-20.7 million)

The decrease of \$20.7 million results from Congressional rescissions of prior year available program (\$1.0 million), approved appropriation transfers (\$15.0 million) and minor below threshold reprogramings (\$4.7 million).

9. Reimbursable Program (\$-33.5 million)

The decrease of \$33.5 million results from actual reimbursable collections.

Comparison of FY 1988 Financing as Reflected
 In Amended FY 1988/1989 Biennial Budget With FY 1988 Financing as
 Shown in FY 1990/1991 Biennial Budget

SUMMARY OF FINANCING (In Thousands of Dollars)

	Financing Per Amended FY 1988/1989 Biennial Budget	Financing Per FY 1990/1991 Biennial Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	4,796,350	4,581,097	-215,253
Program Requirements (Service Account)	4,731,350	4,549,598	-181,752
Program Requirements (Reimbursable)	65,000	31,499	-33,501
Less: Anticipated Reimbursements	65,000	31,499	-33,501
Add: Unobligated balance available to finance subsequent year budget plans	0	63,900	63,900
Appropriation	4,872,461	4,872,461	0
Transfer to Other Accounts	-142,111	-259,963	-117,852
Transfer from Other Accounts	1,000	1,000	0
Appropriation (Adjusted)	4,731,350	4,613,498	-117,852

EXPLANATION OF CHANGES IN FINANCING

1. Program Requirements (Total)

The decrease reflects Congressional rescissions of \$63,900, approved inter-appropriation transfers of \$117,852 and changes to the reimbursable program of \$33,501.

2. Program Requirements (Service Account)

The decrease in program requirements represents the effect of Congressional rescissions and the funding approved for inter-appropriation transfers.

3. Program Requirements (Reimbursable)

The decrease in the reimbursable program reflects the actual orders received.

4. Anticipated Reimbursements

As above.

5. Unobligated Balance Available to Finance Subsequent Year Budget Plans

The increase represents the balance to fund prior year Congressional rescissions.

6. Transfer to Other Accounts

The increase represents funds approved for inter-appropriation transfers.

7. Transfer from Other Accounts

No change.

8. Appropriation (Adjusted)

The decrease reflects the difference between what was requested for direct appropriation for FY 1988 in the Amended FY 1988/1989 Budget and the amount currently requested.